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AND AMERICAN GARDENER'S MAGAZINE.

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D. K. MINOR, Proprietor.] FOR APRIL, 1833. [SAMUEL FLEET, Editor.

ORIGINAL COMMUNICATIONS.

Cultivation of Bees in Single Hives and Dwelling Houses. By the Editor.

In the present article, it is our intention to embody all the useful information which is at our command.

We would first observe, that there have been very satisfactory experiments in raising bees in large towns and cities. Within ten miles of London, Huish, a distinguished writer on bees, supposed, many years ago, when there wore less number of gardens, that there was ample provision for ten thousand hives of bees. Dr. J. V. C. Smith says, "I have repeatedly exhibited a glass hive containing over one hundred pounds, which was made in the heart of Boston in a few summer weeks." Dr. Smith considers a suitable time to remove bees to the city is early in the spring, and that it is of no consequence to which point of the compass the entrance is turned. The hive should be well built to keep out the rain. Bees swarm only in fair weather, and generally from about ten to twelve o'clock. When the swarming bees are refractory, they are rendered more manageable by wetting them with water, by means of a syringe; when they will immediately settle down. Confused noises with drums and kettles are supposed to be of no service. If they light upon a limb too high to be conveniently sawed off, let a rope be thrown over a higher limb, the hive drawn up to the bees, and they swept into it with a long broom. To transfer them from one hive to another, the new one is placed on the old one, the top of which has been taken off, and the bees driven up into the new hive by blowing with a bellows the smoke of old leather and other substances into the hive. A little comb put into the new hive makes them more contented. The transfer should be before the middle of April. The opinion that bees will not swarm as long as they have room to construct their cells, appears to be pretty well confirmed; accordingly, it is now becoming quite common to have a portion of the garret or other suitable room partitioned off for the bees, where they can increase uninterruptedly. Dr. Parker, of Kentucky, has forty swarms in a garret, all in one colony.

The bee-moth is destroyed in various ways. Dr. Smith sets near the hive a burning lamp in a pail or keg, with some honey or molasses in the bottom. A bottle with a long neck, and having either honey or molasses in it, placed under or on the hive, answers the purpose to entrap them. Dr. Thatcher puts a gill of vinegar to a pint of sweetened water in a shallow vessel. By these methods the moths are destroyed in large numbers.

Bees are fond of water, and therefore some should be placed near the hive, if there is none at a convenient distance.

All that is requisite in having the bees in the garret or other upper rooms is, that it be tight, so that no mice, rats, or other vermin, get in. The bees will not enter through a glass window. If a window is desirable to inspect their labor, it should be mostly, if not entirely, closed by a shutter. If the hive of bees is transferred to the room, it should be placed a short distance from the entrance, and a board for the bees to walk on connect it to the hive. It has been asserted that the miller or bee-moth will not trouble the bees when in the garret or similar high room; but this is not fully established.

The following cuts represent Dr. Thatcher's hive, which is considered altogether preferable to any that has yet been brought before the public. For the description and drawing, we are indebted to Dr. Smith's treatise on the raising of bees in cities.

DR. THATCHER'S HIVE.

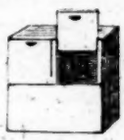


Fig. 1. This is a view in outline of a very valuable hive. The box is to be from one foot to twenty inches square. A back view, as presented in the above diagram, shows that there is a horizontal floor passing through the middle, dividing it into two equal apartments. In the lower, are cross bars for suspending the comb, as common to all hives. In the upper room, are two drawers, side by side, as represented, just filling the whole space. Through the bottom of these drawers, are small orifices, corresponding with two others through the horizontal flooring. Thus, it will be clearly understood, when the drawers are entirely in, the holes will correspond, so that the bees can run freely from the lower to the upper apartments or drawers. At the outside extremity of the drawers, (the one in sight,) a pane of glass is grooved, through which it can be ascertained what state of forwardness the deposition of honey is in. Outside of that, on a line with the box, is a slide door, represented, on the left side, as raised up, the object of which is to close it, for the exclusion of light. When the drawer is drawn out, a slip of tin is slid over the lower opening, to keep the bees below. First one drawer, then the other may be taken out, alternating, according to circumstances.

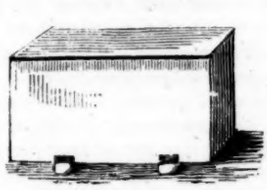


Fig. 2. This is a front view of the doctor's bee-house,—being made large enough to hold two hives, as will be noticed by the two lighting boards: no particular description is necessary, as its shape can be recognized. The door-way in the house should exactly correspond with the door-way of the hive, which is put in at the back side.

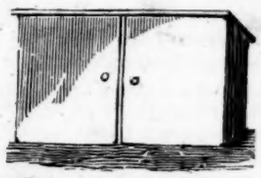


Fig. 3. The back view of the same house presents folding doors, which open for receiving and removing the hives. Trunk handles, on the ends, are very important in carrying the whole from place to place.

Coal Ashes.—Answer to "Many Farmers," [page 94.] By T. Bridgeman. [For the New-York Farmer.]

"Many Farmers" are informed that there are not many sorts of ashes, which will not produce many beneficial effects on the many sorts of soil which are to be found on many farms in the many parts of this and the many other countries in the civilized world; and that there are not many persons but are aware that many cultivators suffer loss from many sorts of insects destroying and injuring many crops of many different sorts, for want of many ashes. To be serious: Although ashes as a manure are most beneficial on clayey soils, they have a very salutary effect on the sandy soils of Long Island and New-Jersey, and the Gentleman of Hudson, is informed that, if he has anthracite coal ashes on hand, he need not fear that the use of them on his farm will be prejudicial to any crop whatever. It is customary with good farmers in England to buy up all sorts of ashes, which they sow in a dry state on all their land. Coal ashes are generally sown or spread over grass ground, in the spring of the year, with good effect, also on turnip ground; and in the event of a scarcity of soot, peat, or wood ashes, are frequently sown over wheat, barley and oats. For ashes to have their full effect, they should be kept dry, and sown in the spring of the year. If the "Many Farmers" were to harrow, roll, and ash, a strip of grass land in an orchard, they would soon witness its beneficial effects, by comparing such with other ground not so managed. I very frequently sow ashes in my vegetable and flower garden with very good success. T. Bridgeman.

Bowery road, March 18, 1833.

Remarks.—It is a general impression in this country that coal ashes are not only useless, but injurious to vegetation. The subject is of much and of increasing importance. By the corporation laws of this city, the coal ashes are set out in vessels on the pavement, and carried away in carts to fill in vacant lots and low ground. Mr. Bridgeman will be a public benefactor if he can convince the farmers that coal ashes are valuable. It is our intention to give them a fair trial in the course of the present season.

In a private note the writer of the following article requests the privilege of furnishing occasional pieces intended for country life, founded more or less on facts. The old fashion of conveying useful information in a pleasing way is still found agreeable and effective. If literature, science, and religion, derive aid from the imagination, surely lessons relating to rural life may be taught in a similar manner.—[ED.]

The Discontented Farmer's Wife. By L. T. To the Editor of the New-York Farmer and American Gardener's Magazine.

The world is full of horrors, troubles, slights;
Woods' harmless shades have only true delights.

Some few years ago I was an inmate of a charming family residing on an inlet of the wide Atlantic, near one of our principal cities. Mr. L., the husband, was a farmer, and a man of taste and education. He owned a farm which was considered one of the most extensive and valuable in the section of the Union in which it was located. The out-buildings were of the most improved construction for convenience, and for the comfort and health of the stock. His horses were "blooded," and his cattle, sheep, swine, and even poultry, were of the best kinds, and kept in the finest order. He was enthusiastically fond of agricultural pursuits; and hence it was his pride and pleasure to excel his neighbors, not only in the productiveness of his fields and the quality of their products, but in the system and order in which they were managed. In addition to the income derived from his farm, he had his independence very much promoted and secured from a no mean fortune at interest.

The dwelling house was within a few rods of the shore, commanding a beautiful water scene, rendered picturesque with islands, and enlivened with vessels, particularly with steamers. "In summer afternoons and evenings," said he to me, "when rest and repose from the activity and labor of the day become desirable, I take my seat in the piazza. Here, with my newspapers and other periodicals, five or six hours, including the time with my wife and children in taking a dish of tea, are happily spent. When my papers are read, I sit and converse, or muse upon and admire the beauties of nature. The music from the becalmed vessels, when the silver beams of the moon are playing on the waters, thrills my very soul with alternate ecstacy and placidness;

For all the arts beneath the heav'n
That man has found, or God has giv'n,
None draws the soul so sweet away,
As music's melting mystic lay.

"Under such emotions," continued he, "I am a happy man, and would not voluntarily exchange my situation for a city life for all the wealth that could be obtained in the most successful mercantile transactions. But there is some bitterness in my cup—my wife is not reconciled to remain in the country. She finds it lonesome and uninviting, particularly in winter. Yielding to her frequently expressed wishes, I am resolved to sell, and take up my residence in the city. Here in the country, you perceive, she has every thing to make her comfortable and happy: an elegantly furnished house—having under her control as many domestics as she wishes—beautiful horses and handsome carriage to take her to the neighboring village, or to the city, whenever it is her pleasure to go—and four dutiful children to interest her, and to bless her."

Leaving this worthy and interesting family, I did not see Mr. L. until I met him a few years ago, in the city of New-York. He then informed me that he sold his farm and stock for thirty thousand dollars—that he invested the greater part of it in United States Bank stock, called in the remainder of his money, entered into a heavy mercantile business, sent his partner to Europe, became embarrassed, sold his bank stock for nearly 20 per cent. less than cost, finally lost all, and was then without even a home for his wife and children, and not only deserted, but criminated and slandered by his former friends. His language, looks, and manners, bespoke him wretched—a sad and painful contrast to what he was four or five short years previous.

Reflecting on the misfortune of the once happy farmer, I was led to trace the causes which rendered a country life uninviting and irksome to his wife. Although she took pleasure in having every thing in order, yet her active mind and ardent feelings did not find sufficient employment and scope. Although intelligent, and conversant with literary authors, yet there would be long hours in which there was nothing to call forth or urge mental or bodily effort. Her library contained no works on the sciences illustrative of the beauties of nature and of the charms of rural life. There was no green-house—no beautiful plants in the windows, diffusing their fragrance and exhibiting their expanding blossoms—no climbers requiring the aid of a delicate hand to enable them to twine around and ascend the pillars of the piazza—no arbors loaded with delicious clusters—no serpentine walks to vary the scenery, and to display the varied floral forms and colors. In fine, there was scarcely any provision made to excite the thoughts, cultivate the taste, and secure the enjoyments peculiar to the country. Had her husband furnished her and his children with periodical and other works on rural pursuits calculated to increase their taste for the natural sciences, and had he employed an intelligent, tasty gardener, he never would have had a wife discontented with the country, nor to exchange the sweets and joys for the dregs and horrors of life.

March, 1833. L. T.

Miscellaneous Rural and Scientific Gleanings. By the EDITOR.

Composition of the Atmosphere.—Nitrogen and oxygen, with a small portion of carbonic acid gas, are the constituents forming the atmosphere. The two former are considered not to vary in their proportions. The proportion of the latter depends on temperature, winds, rains, and atmospherical pressure. At Geneva, according to the experiments of Saussure, the mean quantity of this gas in 1000 parts of air by measure is at mid-day 4. 9, the minimum 3. 7, and the maximum 6. 2. He observes, that in Switzerland this gas increases in summer, and decreases in autumn—that at noon the quantity in December, January and February, is to that in June, July and August, as 77 to 100. Over wet soils the atmosphere contains less than over dry ones—more in the night than in the day time—less in the lower strata of the air than in the higher. Winds are considered to increase the quantity in the strata near the earth, by mixing that of the upper strata. The cause why there is less over wet soils is, probably, that fermentation is checked by excess of moisture. Plants give out carbonic acid gas in the night, and thus increase the quantity.

Northern and Southern Aspect.—On the northern declivity of the Himmalah mountains, at the height of 15,000 feet, Capt. Gerrard found the hills and vallies covered with vegetation and herds of deer, and flocks of pigeons. On the southern declivity, at 10,000 ft. was the extreme height of cultivation. This difference is supposed to be owing to the radiation of caloric from the table land of Thibet: the dryness of the air in Central and Northern Asia, the small quantity of snow, and the serenity and transparency of the atmosphere, facilitating radiation.

Dew collected from the leaves of plants contains more carbonic acid gas than that from other substances. The gas given out in the night must be absorbed by the dew.

The Romans.—Pliny asserts that the Roman citizens, in early times, ploughed their fields with the same diligence that they pitched camps, and sowed their grain with the same care that they formed their armies for battle.

Planting and Building—Cato says, "a landholder should apply himself to the planting of his fields early in his youth, but he ought to think long before he builds."

Planting in Scotland.—Sir Walter Scott's History of Scotland contains the following: In 1504, there was made "a series of regulations for the improvement of rural economy, which imposes a heavier mulct than before on the destroyers of wood, the forests of Scotland being, as was alleged, utterly destroyed. For the same reason, every inheritor is directed to plant at least an acre of wood, to form parks and inclosures, construct fish-ponds, stock rabbit-warrens and dove-cotes, and plant orchards."

The Horse.—This noble animal appears to find a congenial climate wherever the air is pure. It is remarked that a low and marshy soil, in all countries, is uncongenial to him, and that he rapidly degenerates.

Sinking Wells.—Bishop Heber mentions a curious way of sinking wells in some parts of Asia. When the ground is sandy, a cylindrical tower of brick or stone work is made of the intended size of the well. This is suffered to remain until the masonry becomes indurated, and then it is gradually undermined until it is sunk even with the surface of the ground. If the well is not sufficiently deep, they add more masonry, and again undermine.

Salt in India.—The soil of Hindostan is so much impregnated with salt, that a saline effervescence is seen in almost every low spot.

Mud in Rivers.—The weight of mud daily carried down the river Ganges is calculated at 74 times the weight of the great pyramid of Egypt.

Saltpetre in India.—Bishop Heber observes that the tendency of the soil in Bengal to produce saltpetre is so great, that it encroaches upon walls and floors of the houses to an extent often rendering them uninhabitable in a few years. The saltpetre corrodes the best of bricks, and crumbles them.

Forcing Asparagus. By An Observer. [For the New-York Farmer, and American Gardener's Magazine.]

Sir,—I notice in your last number suggestions on forcing asparagus, and other vegetables. Forcing is not altogether neglected in this place, as I have had the pleasure, (through the politeness of Mr. Whaleing, gardener,) of seeing at the garden of General Van Rensselaer, Jun., some very fine asparagus, now in cutting. Mr. W. has cut several dishes this season, and to all appearance an abundant succession will be obtained from the frame. It is little to be doubted but the utility of forcing vegetables will, ere long, embrace a prominent feature in horticultural improvements, and be generally adopted, as the only means of procuring vegetables at an early season, so requisite, after a long winter, to the health of most people.

An Observer.

Albany, February 16, 1833.

Hints and Suggestions to Farmers, No. IV. By B. [For the New-York Farmer, and American Gardener's Magazine.]

The adage that "knowledge is power" is remarkably verified in the experience of the day. What, but the advantage of education, has conferred on a very diminutive class of the community the political distinctions and honors of a privileged order? and what but the want of a liberal education has reduced the farmers, who are the bone and sinew of the state, to the abject condition of mere *followers* in political matters? Nature has been alike bountiful to all classes; yet education has produced a marked disparity. The colleges which we have wisely and liberally endowed, are sealed treasures to the "*sovereign people.*" They neither teach the hand, nor instruct the mind, of the humble laborer. They are fountains of wisdom only to the learned professions. The consequence of this state of things is, that most of the civil offices, which either yield emoluments or confer power, have been engrossed by the favored class. Few are aware of the extent to which the evil has encroached upon us. This is neither the age nor the country in which political usurpations can be expected long to succeed without a re-action; and the revulsion will be violent in proportion to the obstinacy of the disease.

I have no prejudice against lawyers, nor would I ascribe to them any peculiar obliquity of intention; and yet I deem it more wise to treat them as equals, than as superiors—to confine them to a share, rather than confer upon them the exclusive honors and emoluments of public office. If their education and profession have rendered them the *elite* of society, these have conferred upon them neither exclusive virtues nor exclusive privileges. Men claim as a right what they are long permitted to enjoy as a favor; and it is therefore indiscreet to allow a bad usage, in this way, to acquire the force of law. It matters not whether the monopolists of office are called noblemen or attorneys. It is the principle, not the name, that militates against the spirit of a republican government, the first principle of which is a guarantee of equal privileges to all.

We see in the legal profession men of the most splendid talents and eminent virtues; and we see also many who have little to commend them—whose knowledge is cunning, and whose principles are venal—and who subsist by the mischief they engender. Nor is this so much to be wondered at, when we consider that the law has hitherto offered the most certain road to wealth, as well as to office and honors; and as many prefer to live by their wits rather than by their labor, it is to be expected that the bad, as well as the good, will crowd to this Temple of Hope, for honors or for bread.

Although this profession adds little or nothing, by its labors, to the wealth, it adds very much to the intelligence and respectability of society. This, like all other classes, has its appropriate sphere of usefulness. I would choose from the profession my agent, to manage a law suit; but I would not select from it the foreman of my farm, or the almoner of my charity. He would lack practical knowledge on the farm; and I should not be pleased to have the measure of *my* alms graduated by *his* scale of expenditure. What is our state legislation but managing the concerns of a great agricultural community? Our commerce and manufactures fall principally within the sphere of the national government. How important is it, then, that those for whose benefit this legislation is managed should themselves be the principal managers.

The besetting sin of the profession, although there may be many exceptions to the general rule, is *an inordinate thirst for office and power*; and so amply has this ruling passion been gratified—so completely have they wormed themselves into place—that they have become nearly the exclusive incumbents. They are in possession of pretty much all the judicial offices, of course. They hold, besides, most of the great offices, and a goodly number of the smaller ones. *They compose one-half* (save one) *of our State Senate*, and THEY CONSTITUTE MORE THAN TWO-THIRDS OF THE REPRESENTATION OF THE STATE IN CONGRESS! and yet, (tell it not in Gath,) *they number less than one in a thousand of our population!** I know a *clever fellow* of the profession who has already *six* offices in keeping, and who is now, at this present, writing, in hot pursuit of a *seventh*, and I doubt not will feel himself aggrieved if the boon is denied him. I remember to have once called on the late Gov. Tompkins, with a letter from a legal friend soliciting his aid for an office. That excellent man, on reading the letter, burst into a hearty laugh, and exclaimed: "Jake is mad—the fellow's office is already covered with his signs; and if he gets this office, he must positively build an addition." In truth, offices have become so common an appendage to the profession, or the law has become so direct a road to office, that many of our legal gentlemen not only seem to claim these dignities as a right to *hold*, but to *transfer*, in the event of *rotation*.†

I would ask, is it not to the scramble for office, of these legal aspirants, that we owe much, very much, of the bitterness and profligacy, of the noise and strife, which disgrace our elections, and debase our character as a liberal and free people. And may I not add, without offending the sensibility of good men, does not the awful excitement which now convulses the South, derive much of its madness and frenzy from the promptings of the disappointed ambition of professional men?

I consider an inordinate desire for office incompatible with the dignity and spirit which belong to freemen. It is the parent of sycophancy and meanness—or of presumption and violence. It is an *honor* to merit office, but a *virtue* to await its bestowal. A great man may *seize* the reward—a good man will only *accept* it. We have seen these distinct qualities strongly contrasted in Bonaparte and Washington: one became a blessing, the other a curse to his country. In moral degradation, I see but little to choose between the importunate beggar for office and him who asks alms at my door. The one is impelled by imaginary, the other by real want.

December 20, 1832. B.

* Well may Prince Murat say, as he does in his Letter on America—"The lawyers are the only statesmen, the true aristocracy of the country."

† I use this word in its modern acceptation. It has been discovered, in the old Saxon text, that *rotation* is derived from *rotary* (rolling like a log), and that the correct reading of our republican maxim, "rotation in office," is "*rolling* in office;" i. e. rolling from one office to another—or, more properly, "rolling in *offices*." This construction has long been sanctioned by British authority, which it is well known has ever precedence at our bar.

Vegetable Physiology—Excrementitious Matter from the Roots. By R. M. W. [For the New-York Farmer.]

Mr. Fleet—In the New-York Farmer, Vol. 6th, No. 2, I notice a communication signed B, on Vegetable Physiology, in which he gives us the ideas of Professor Lindley and M. Macaire, concerning the excrements of vegetables, all of which I take to be mere dreaming. The observations of the two professors are such a jumble of truth and falsehood, that I can scarcely forbear smiling at the profound absurdity of the notion of *vegetable excrement.*

The roots of plants I believe take nothing from the earth but water, and derive most of their food from the atmosphere by means of their leaves, and yield nothing to the earth by their roots. If a sweet apple graft be put into a crab apple stock, and a limb come out below the graft, this limb continues to produce crab apples—and so of every other grafted tree. B. is correct in supposing that the want of food is the principal cause of sterility. I have known wheat to grow on the same soil six years in succession, and the crops were uniformly good.

I have also known cabbages to grow on the same soil for 20 years in succession, without any deterioration. Plants have the faculty of assimilating the water and food received by the leaves and roots to the peculiar nature of the plant: thus we frequently see the deadly nightshade, the stramonium and the cabbage, all growing in the same soil and contiguous to each other, and as yet no chemist has been able to discover any principle congenial to either in the soil where they grow. The idea of plants depositing poisonous qualities in the earth is truly very fanciful, but I apprehend not very true. A moment's reflection must, I think, convince any person of observation of the absurdity of this doctrine.

The experiments of De Helmont and Boyle go to prove incontestibly that plants receive their principal food from the atmosphere, take little but water from the earth, and deposit nothing in it. Such are my views of vegetable physiology. I remain yours,

R. M. W.

Middlesex, February 20, 1833.

Remarks by the Editor.—We deem this subject of much importance. The following facts may afford some light, although they militate against the doctrine of a rotation of crops. In the Deccan and Candeish districts of Hin-

dostan, there are extensive plains, formed to the depth of two to twenty or thirty feet deep, by disintegrated trap rocks. They are remarkable for their fertility, and uniformly produce good cotton crops without any alternation or manure. They are supposed to have had no returns made to the soil, although they have been cultivated two or three thousand years. The fertility of the soil is attributed to its power of absorbing moisture from the atmosphere. The absorbent properties of the soil must, therefore, be taken into consideration, when adducing the undiminished fertility of soils as an argument on this intricate subject of vegetable physiology.

Agricultural School—Report of the Committee on the Memorial of the New-York State Agricultural Society.

We are happy to present to our readers the following Report on the important subject of establishing an Agricultural School in the State of New-York. The course that has been pursued in reference to the Memorial is respectful, and at the same time judicious. By not pressing the bill to a third reading, time is thus afforded to have the plan brought before the people, and properly digested. We earnestly invite communications both pro and contra, and hope the press throughout the State will agitate the subject.

Mr. Sudam, from the select committee to which was referred the memorial of the New-York State Agricultural Society, praying for the establishment of an Agricultural School, reported:

That they have had under their consideration the subject submitted to them, accompanied by a report made during the present session to the New-York Agricultural Society, and on which their memorial to the Legislature is predicated.

It will be conceded that there is no portion of the community more entitled to the fostering care of the legislature, than the tillers of the soil. The farmers of the State of New-York are a class numerous, wealthy, industrious, patriotic, and, above all other classes, from principle, devoted to our republican institutions, and cherishing with a holy spirit the union of our states. Their political exertions are not called forth by a desire of any great portion of their own body for legislative honors, or for those of the minor judicial situations in the state; but to maintain and preserve inviolate that sacred trust which has descended to them by the revolutionary efforts of their fathers, the full protection of life, liberty, and property.

When a storm arises in the horizon, and danger awaits us from abroad, or when crazed ambition at home drives the frenzied passions of men to madness and all its excesses, it is in the farming interest of the country that you find the steady hand which holds the balance of political power, and by its strong arm repels the foe, or by its electoral voice annihilates the unjust hopes of the aspiring ambition of profligate politicians.

It may be said by your committee, (without the imputation of a state vanity,) that New-York holds a high rank by her munificent endowments of colleges, academies, and common schools. We, knowing their extent, need not elaborate on them in this report. Still it is but just to say, that she is already cited in Europe as a signal instance of what may be done for the education of every class of society, under the soft and benign influence of a free government, and that her motto is "Knowledge is power."

In her enterprize, by facilitating intercourse between the different sections of her state and the waters of the Atlantic, she is as unrivalled in conception as she has been successful in execution. Not content with this, it is an admitted fact, and worthy of all honor, that she has carried into effect the most perfect prison discipline in the world; and we have already witnessed the wise and the humane of Europe resorting to her shores to ascertain the art of subduing the rebellious passions of the worst of our race, without the aid of those sanguinary punishments which have so long disgraced the old world.

Thus has she expended millions of her money, and already has she erected a monument to the wisdom of her statesmen, more durable than any ever dedicated to the victor of a thousand fields.

Who are they who have contributed so freely, so generously, to expenditures calculated to immortalize the state, and to establish its glory on so pure a foundation? Mainly the farmers of our country, the yeomen of the land, the tillers of the soil. Freely have they given, and joyfully have they paid, and most rich results have been the consequence of their enlightened liberality.

Is it then unfair to ask, what has been done by the Legislature for a class of its citizens so numerous, virtuous, and meritorious? The stranger, when he sojourns in our land, and views all that has been done for the cause of science, for education in the higher branches of literature, for our common schools, for the reformation and punishment of crimes on a scale superior to any state in Europe, naturally inquires: Show me your agricultural school. You are essentially an agricultural people; a class of society who have aided so liberally to the institutions of your state must have received the constant and peculiar care of legislative protection and patronage, by forming their minds, their habits and their tempers, to become the patrons of the noble monuments already erected, and which, while they shed lustre on your state, have placed her first among her sisters in the Union.

Shall we any longer be compelled to answer: We have no such institution; we have provided an ample revenue for all but a complete course of *practical* instruction in agriculture. In almost every state in Europe, the attention of despotic governments has been called—nay, seriously and sedulously directed—to the formation and endowment of schools of this description. There it is admitted the motive to a certain extent may be mercenary—to provide *food* for taxation. Here it is a *debt due from the State* to a class which, before they *asked for themselves*, have *contributed to all others*.

It is conceded by your committee, that to a certain extent farmers are not fond of innovations. If experiments are tried, they are too often limited to one or two. If they fail, it is condemned. That prejudices of this description are fast wearing away, we admit: but that they still exist, to a considerable extent, there can be no doubt. And a *gentleman farmer* is generally at hand, as an instance of a poor farmer. But it is not the intention of the committee to endow an institution to rear up and educate persons in the mere theory of husbandry. It is to combine practice with science; and if it should be said that this would be a school only for the children of the opulent, the unanswerable argument is, that it is the same in regard to our colleges, and must be so of necessity. Still the results of such an education, practised upon in all parts of the state, must and will lead to the most beneficial results. A good example is worth a world of mere speculation.

In a school of this kind, under competent managers, there may be concentrated the best models of practice, in rural labor, known at home or abroad. The various breeds of domestic animals, the varieties of garden and orchard fruit, and the implements of husbandry, may be here satisfactorily compared, and their relative merits and advantages determined. Diversified experiments may be made in the various departments of husbandry, calculated to instruct and improve us in practice. Mechanical science, particularly what is denominated *the Mechanics of Agriculture*, may be illustrated and taught in the same manner, in the shops and on the farm. The application of science to the mechanic and manufacturing arts has, in a wonderful degree, simplified their manipulations, abridged their labor, and rendered their results more certain. From what has already been done, we are not permitted to hesitate or doubt but science will prove equally beneficial to agriculture. There is no business which embraces a wider range in natural science than this.

The laws which govern organic and inorganic matter, which influence the economy of the animal and vegetable kingdoms, it cannot be denied, have a controlling influence in the operations of the soil, and in the business of raising animals and plants. Education (practical education) is no where calculated to diffuse a more benign influence in society, than when bestowed on the farmer. He neither claims nor can exercise a monopoly. *His* improvements and *his* knowledge diffuse light around him, and are beneficial to all within the sphere of their influence.

Your committee feel assured, that if put into operation, this school will become, not only popular, but highly useful. To the pupil it will afford the most important advantages, besides instruction in the principles and practice of rural labor; which, of itself, confers the power of creating wealth. It will afford him the advantages of a *literary school*, qualify him for the higher duties of civil life, and give him withal, what is seldom acquired but in youth, habits of labor and application to business; calculated alike to promote his individual happiness, and the good of the State.

With such an education, combining personal labor for a practical knowledge of all the instruments of husbandry, and the mode and manner in which it is to be prosecuted, those scientific pursuits will be prosecuted with a certainty that the foot of labor is guided by the unerring results of experience, founded in and regulated by the laws of nature.

This school is intended to be purely agricultural. But in saying this, it will be necessary to open a course of instruction, combined with labor, which your committee venture to say will be as interesting, and, to the State, as valuable, as that which may be acquired in any other seminary. The different qualities of soil, as fitted for the various products of the earth; the use of compost and manures, as applicable to soils; the seasons for planting the rotation of crops, and the vast mass of practical information which enables man to transform a wilderness into a paradise, is wor-

thy the pursuit of the *richest* as well as the humblest of the land.

Again, the importance of procuring, at all times and at fair prices, prime stock, of the best breeds of cattle, ought not to be omitted, either as an inducement to the Legislature, or as of the first importance to the people.

The question is, shall we endow a school, to which many would desire to send their children for the purpose of preparing them to depend in future life, on one of the most certain and therefore the most happy of human pursuits; combining in itself all the elements of constant, regular, and sagacious employment; and freed from the cares and corroding recollections, present, or past, of the pursuits of a political life.

It is evident that law, divinity, and physic, are overstocked. The pursuits of commerce are laborious, and do not very often yield a return to persons of a moderate fortune and liberal education: as now educated, they are not fitted for farmers; so tenaciously do those early habits adhere to them, that the attempt at agriculture is generally a failure. Your committee propose to give them a school, to which resort may be had for the cultivation of the mind, and the improvement of the person: laying the foundation for future toils and pleasures, (for toils in agriculture are pleasures, when conducted to a successful result,) for future health and happiness, and preparing them to rear up a race fit to transmit to posterity the liberties we so highly cherish.

Your committee do not, in this report, enter into a detail of the expenditure necessary for this school. That is so fully treated of in the annexed report, to the Agricultural Society, that they could only repeat what is there stated. But they cannot close without remarking what must be obvious to all, how much skill and science may effect in agricultural pursuits.

Is there one of our body who has not seen, and remarked, the difference in adjoining farms, where *nature had made no difference* in the soil. It is this practical skill, this science, combined with labor, that they desire, (most anxiously desire,) to bestow on a rising generation; they deem it their duty, most earnestly, to press it on the consideration of the Legislature, as called for by every consideration due to the public welfare, to the true and lasting interests of the State: and as the last, but most substantial pillar in the varied edifice of her public institutions.

Impressed with this belief, and that the school recommended will in many ways prove highly beneficial to the community, and persuaded that the State will ultimately be fully indemnified for her advances, your committee have prepared a bill in conformity with the prayer of the petitioners, which they have directed their chairman to ask leave to present.

[The memorial of the society was published in the number for March, page 84.]

The following are the material provisions of the bill which accompanied the preceding report:

1. The Comptroller to issue certificates of stock to the amount of of $100,000, bearing an interest of 5 per cent., and redeemable in 20 years, to be sold at public auction in the city of New York, to the highest bidder, the proceeds to be applied to the establishment of the school.

2. Three commissioners to be appointed by the Governor to purchase a farm and contract for the erection of suitable buildings for a school, sufficient for the accommodation of 200 pupils, the officers of the institution, and the servants for the farm.

3. The Governor and Senate to appoint seven trustees, to manage the concerns of the institution, who shall appoint a principal teacher and overseers, and employ the necessary laborers and assistants, and to prescribe, with the advice of the principal, the police and regulations of the school.

4. The trustees to be a body corporate and politic, and required to report annually to the legislature or Regents of the University, a full statement of the condition of the institution in all its branches. No pupil to be admitted into the school under the age of 14 years.

Mr. Sudam said it was not the intention of the committee to press the bill to a third reading at this session. They only desired that it be discussed; and that the report of the committee, and the views of those friendly to the measure, should be spread before the public, for the purpose of enabling the next legislature to judge whether it met the approbation of the citizens of the state.

Yellows in Peach Trees. By Sevis. To the Editor of the New-York Farmer.

Sir,—As I am a cultivator of the peach, and have been for some years past, and have given my attention to the disease of the tree, I do believe that I know something by experience. First, it is a fact that the yellows can be given to a healthy tree by inoculating it from a diseased tree, or by trimming a diseased tree and then passing on with the same knife to a healthy tree; and the moment you amputate a limb with the knife that has got the seeds of death on it, it will be sure to take, as it would be to inoculate a child with the small-pox. In 1830, I had some cions brought to me by Mr. S.; some that had the yellows in its first stage, and some from a healthy one. They were budded on young trees of that summer's growth. They were fine and healthy young trees. Now I will give you the result of the two lots of cions. In the first lot there were about 140 trees budded from it; 120 trees grew from the 140, and they had the yellows, all of them, in 1831, and the 20 were not cut down for the buds, because the buds did not start to grow; then these 20 natural trees, all of them, had the yellows. Second lot of cions—part of them were budded on the same row where No. 1 was, and the remainder on the next row; there were 250 buds inserted; 220 grew. They are all healthy, and the natural ones were healthy, and buds inserted into them again.

How often do we see advertisements to cure the yellows in peach trees; but that has never been done, nor never can be. The only remedy is, when you see a tree that is attacked with that disease, dig it up; do not leave it for the fruit. If it bears, the fruit is not worth any thing—poor tasteless trash.

I think by proper management a peach orchard could be kept from the yellows for six or eight years. I have 120 trees five and six years old, and not one of them has got the yellows. When I got the trees, there was one kind among them that the yellows made its appearance on the first summer after planting. As soon as I discovered it, I dug them up and planted out good ones, and now they are all healthy, and I believe will continue so for five years to come, with proper management.

Sevis.

Middletown, New-Jersey, 1833.

The Pomological Society of the Valley of the Hudson. By Q. Z. [For the New-York Farmer and American Gardeners' Magazine.]

Mr. Fleet—I have noticed with much pleasure in your February number the proposition of J. B. (Jesse Buel, Esq.) in relation to a Pomological Society. I perfectly coincide with that gentleman with regard to the benefits and advantages of such an association; and where, I would ask, is a more ample field for research, or a more suitable garden for experiment, than is afforded by the Valley of the Hudson? That we have hundreds of fine varieties of fruit which are comparatively unknown, is believed, and known to be the fact, by every Pomologist in the country. And who that is in the least conversant with the subject has not in almost every neighborhood met with most excellent varieties of indigenous fruit, particularly apples, the merits of which no one is acquainted with beyond the circle of the few miles where they originated. The comparative scarcity of nurseries (establishments which do much towards the dissemination of fine fruits) has undoubtedly been an obstacle in the way of Pomological knowledge. But the subject has not as yet received the attention among us which ought to be expected, when our gardens and orchards yield such a rich tribute with so little care. It is true we are indebted to Coxe, for a highly interesting volume, in which he has figured and described many fine fruits. Fessenden & Thacher have also contributed a share; and more latterly we have been favored with a manual on the subject by W. R. Prince. Yet I apprehend that the attention of these authors has been more particularly directed to the description of foreign, than the investigation of native varieties. And it yet remains for a society, instituted as I hope the present one will be, to do for the United States what the labors of the London Horticultural Society, the authors of the Pomological Magazine, and Hooker, Langley, &c. have done for Great Britain, and what the Abbe Rozier, Duhamel, Diel, Van Mons, and others, have done for the continent. The splendid and useful works of these authors have diffused much knowledge on the subject throughout Europe; and the eagerness with which they have seized upon some of our most celebrated fruits, show that they fully appreciate their value, and acknowledge the congeniality of our climate and soil to this favorite branch of culture.

Judge Buel also remarks that "the Pomologists of Europe have recently produced many new varieties of fruit, highly worthy of trial in our state." I might cite the cherries of Knight, and the many fine pears which have lately originated in France, Holland and Germany, as examples. These are yet almost unknown here: it is true they exist in a few of the largest nurseries, but their introduction is slow, and a society established purposely to further the propagation of fine fruits would doubtless do much towards the dissemination of these luxuries of nature. I cannot conclude without expressing my conviction of the feasibility of the plan, and join with its proposer in the wish that it may be speedily acted upon. The many fine orchards and gardens in the Valley of the Hudson would seem to augur favorably as an indication of the similarity of taste in their owners for this delightful avocation: and I cannot, for a moment, doubt that there will be at least 3 or 4 gentlemen in each of the counties bordering on the Hudson, who will willingly and promptly lend their assistance towards the furtherance of this important subject.

Q. Z.

Newburgh, March, 1833.

Remarks.—We have received the names of several gentlemen as members of the Society. We hope others will not be backward in following the example.

The Beauties of April and May. By THOS. BRIDGEMAN, Florist. For the New-York Farmer and American Gardener's Magazine.

Mr. EDITOR,—You will no doubt agree with me that a periodical publication, confined wholly to practical subjects, is not well received by the generality of readers; I therefore offer the following for variety, which may be entitled the "Beauties of April and May."

Yours, most respectfully,

T. BRIDGEMAN.

APRIL.

"Descend, sweet April, from yon watery bow,
And liberal strew the ground with budding flowers,
With leaflet [illegible], leaf-veiled violet,
Auricula, with powdered cup, primrose
That loves to lurk below the hawthorn shade."

It is generally admitted that the month of April gives the most perfect image of spring; for its vicissitudes of warm gleams of sunshine and gentle showers have the most powerful effect in hastening the universal springing of the vegetable tribes, from whence the season derives its appellation. Next comes the favorite month of the year in poetical description.

MAY.

"For thee, sweet month, the groves green liv'ries wear;
If not the first, the fairest in the year;
Thou dost afford us many pleasant hours,
While Nature's ready pencil paints the flowers.

The pious Hervey, in his meditations on the flower garden, has furnished us many sublime ideas respecting the order, variety, and beauty of the flower tribe. It is in vain to attempt a catalogue of those amiable gifts. There is an endless multiplicity in their characters, yet an invariable order in their approaches. Every month, almost every week, has its peculiar ornaments; not servilely copying the works of its predecessors, but forming, still forming, and still executing, some new design: so lavish is the fancy, yet so exact is the process of nature. Were all the flowery tribe to exhibit themselves at one particular season, there would be at once a promiscuous throng, and at once a total privation.

We should scarce have an opportunity of adverting to the dainty qualities of half, and must soon lose the agreeable company of them all. But now, since every species has a separate post to occupy, and a distinct interval for appearing, we can take a leisurely and minute survey of each succeeding set. We can view and review their forms; enter into a more intimate acquaintance with their charming accomplishments, and receive all those pleasing sensations which they are calculated to yield.

Before the trees have ventured to unfold their leaves, and while the icicles are pendant on our houses, the snow drop breaks her way through the frozen soil fearless of danger. Next peeps out the crocus, but cautiously and with an air of timidity. She shuns the howling blasts, and cleaves close to her low situation. Nor is the violet last in the shining embassy, which, with all the embellishments that would grace a royal garden, condescends to line our borders, and bloom at the feet of briars. Freely she distributes the bounty of her emissive sweets, while herself retires from sight, seeking rather to administer pleasure than to win admiration. Emblem, expressive emblem, of those modest virtues which delight to bloom in obscurity. There are several kinds of violets, but the fragrant, both blue and white, are the earliest. Shakspeare compares an exquisitely sweet strain of music to the delicious scent of this flower:

"O! it came o'er my ear like the sweet south,
That breathes upon a bank of violets,
Stealing and giving odor."

The pious Hervey, in his admonitions to those who indulge in sloth, has thrown out the following sublime ideas: "What sweets are those which so agreeably salute my nostrils? They are the breath of the flowers, the incense of the garden. How liberally does the jessamine dispense her odoriferous riches! How deliciously has the woodbine embalmed this morning walk! The air is all perfume. And is not this another most engaging argument to forsake the bed of sloth? Who would be dissolved in senseless slumbers, while so many breathing sweets invite him to a feast of fragrancy—especially considering that the advancing day will exhale the volatile dainties? A fugitive treat they are, prepared only for the wakeful and industrious. Whereas, when the sluggard lifts his heavy eyes, the flowers will droop, their fine sweets be dissipated, and instead of this refreshing humidity, the air will become a kind of liquid fire."

With this very motive, heightened by a representation of the most charming pieces of morning scenery, the parent of mankind awakes his lovely consort. There is such a delicacy in the choice, and so much life in the description, of these rural images, that I cannot excuse myself without repeating the whole passage. Whisper it, some friendly genius, in the ear of every one, who is now sunk in sleep, and lost to all these refined gratifications!

"Awake! the morning shines, and the fresh field
Calls you: ye lose the prime, to mark how spring
The tender plants, how blows the citron grove;
What drops the myrrh, and what the balmy reed;
How Nature paints her color, how the bee
Sits on the bloom, extracting liquid sweets."

How delightful is this fragrance! It is distributed in the nicest proportion; neither so strong as to oppress the organs, nor so faint as to elude them. We are soon cloyed at a sumptuous banquet; but this pleasure never loses its poignancy, never palls the appetite. Here luxury itself is innocent; or rather in this case indulgence is incapable of excess. This balmy entertainment not only regales the scene, but cheers the very soul; and instead of clogging elates its powers.

Our subject is so enchanting that we had inadvertently wandered from the path we first entered. We now retrace our steps and take a glance of surrounding objects. The fields look green with the springing grass. See the daffodil, how it spreads itself to the wind! The leaves of honey-suckles begin to expand, and lilacs or syringas of various hues unfold their buds. The almond exhibits its rosy clusters, and the corchorus its golden balls. Many of the lowlier plants exhibit their yellow and purple colors, and the buds of lilies and other perennial plants prepare to shew themselves. If we turn our attention to the orchard we behold the apricots, nectarines, and peaches, lead the way in blossoming, which are followed by the cherry and the plumb. These form a most agreeable spectacle, as well on account of their beauty as of the promise they give of future benefits. It is, however, an anxious time for the possessor, as the fairest prospect of a plentiful increase is often blighted. Shakspeare draws a pathetic comparison from this circumstance, to paint the delusive nature of human expectation:

"This is the state of man; to-day he puts forth
The tender leaves of hope; to-morrow blossoms,
And bears his blushing honors thick upon him;
The third day comes a frost, a killing frost,
And nips his root."

But we now return to the garden. Before we have time to explore nature's treasures, many disappear; amongst those we had almost forgotten the humble daisy, which shrinks from the intense heat, and the several varieties of primulus, or early spring flowers. The various grades of polyanthus deserve a close inspection; these for a while exhibit their sparkling beauties, but, alack! soon disappear. Scarce have we sustained this loss, but in comes the auricula, and more than achieves it. Arrayed she comes in a splendid variety of amiable forms, with an eye of crystal, and garments of the most glossy satin. A very distinguished procession this! The favorite care of the florist, but these also soon disappear. Who could forbear grieving at their departure, did not the various sorts of bulbous flowers burst their bands asunder, or rather expand, so as to exhibit their fragrance and beauty. While we reluctantly dispense with the sweet perfumes of the hyacinth and narcissus, we behold the tulips begin to raise themselves on their fine wands or stately stalks. They flush the parterre with one of the gayest dresses that blooming nature wears. Here one may behold the innocent wantonness of beauty. Here she indulges a thousand freaks, and sports herself in the most charming diversity of colors. In a grove of tulips or a bed of pinks, one perceives a difference in almost every individual. Scarce any two are turned and tinted exactly alike. What colors, what colors are here! these so nobly bold, and those so delicately languid. What a glow is enkindled in some! what a gloss shines upon others. With what a masterly skill is every one of the varying tints disposed! Here they seem to be thrown on with an easy dash of security and freedom; there they are adjusted by the nicest touches of art and accuracy. Those colors which form the ground are always so judiciously chosen, as to heighten the lustre of the superadded figures; while the verdure of the impalement, or the shadings of the foliage, impart new liveliness to the whole. Fine, inimitably fine, is the texture of the web on which these shining treasures are displayed. What are the labors of the Persian looms, what all the gay attire which the shuttle or the needle can furnish, compared with nature's work. One cannot forbear reflecting in this place, on the too prevailing humor of being fond and ostentatious of dress. What an abject and mistaken ambition is this! How unworthy the dignity of man, and the wisdom of rational beings! Especially since these little productions of the earth have indisputably the pre-eminence in such outward embellishments. But we had like to have forgotten the fragrant, the very fragrant wall and gilly-flowers; some of these regale us with their perfumes through various vicissitudes and alterations of the season, while others make a transient visit only. In favored situations arises the anemone, encircled at the bottom with a spreading robe, and rounded at the top into a beautiful dome. In its loosely flowing mantle you may observe a noble negligence; in its gently bending tufts, the nicest symmetry. This may be termed the fine gentleman of the garden, because it seems to possess the means of uniting simplicity with refinement, of reconciling art and ease. The same month has the merit of producing the ranunculus. All bold and graceful, it expands the riches of its foliage, and acquires by degrees the loveliest enamel in the

world. As persons of intrinsic worth disdain the superficial arts of recommendation practiced by fops, so this lordly flower scorns to borrow any of its excellencies from powders and essences. It needs no such attractions to render it the darling of the curious, being sufficiently engaging from the elegance of its figure, the radiant variety of its tinges, and a certain superior dignity of aspect.

We had intended to confine our meditations to the beauties of April and May, but nature seems to improve in her operations. Her latest strokes are most masterly. To crown the collection she introduces the carnation, which captivates our eyes with a noble spread of graces, and charms another sense with a profusion of exquisite odors. This single flower has centered in itself the perfection of all the preceding. The moment it appears, it so commands our attention, that we scarce regret the absence of the rest. The field we have entered is so extensive and so enchanting, that we cannot extricate ourselves without taking a cursory glance at the airs and habits, the attitude and lineaments, of every distinct class. See the imperial crown, splendid and beautifully grand! See the tuberose, delicate and languishingly fair! Behold the charming rose! See all the pomp and glory of the parterre, where nature's paint and perfume do wonders. Some rear their heads with a majestic mien, and overlook, like sovereigns or nobles, the whole parterre. Others seem more modest in their aims, and advance only to the middle stations; a genius turned for heraldry might term them the gentry of the border; while others, free from all aspiring views, creep unambitiously on the ground, and look like the commonalty of the kind. Some are intersected with elegant stripes, or studded with radiant spots. Some affect to be genteelly powdered, or neatly fringed; while others are plain in their aspect, unaffected in their dress, and content to please with a naked* simplicity. Some assume the monarch's purple; some look most becoming in the virgin's white; but black, doleful black, has no admittance into the wardrobe of spring. The weeds of mourning would be a manifest indecorum when nature holds an universal festival. She would now inspire none but delightful ideas, and therefore always makes her appearance in some amiable suit. Here stands a warrior clad with crimson; there sits a magistrate robed in scarlet; and yonder struts a pretty fellow, that seems to have dipped his plumes in the rainbow, and glitters in all the gay colors of that resplendent arch. Some rise into a curious cup, or fall into a set of beautiful bells. Some spread themselves in a swelling tuft, or crowd into a delicious cluster. In some the predominant stain softens by the gentlest diminutions, till it has even stole away from itself. The eye is amused at the agreeable delusion, and we wonder to find ourselves insensibly decoyed into quite a different lustre. In others you will think the fine tinges were emulous of pre-eminence. Disdaining to mingle, they confront one another with the resolution of rivals determined to dispute the prize of beauty; while each is improved, by the opposition, into the highest vivacity of complexion.

I may probably enlarge on this amusing subject at some future period.

Yours, most respectfully,

T. Bridgeman.

Bowery Road, March 14, 1833.

Cotswold and other Varieties of Sheep. By H. For the New-York Farmer and American Gardener's Magazine.

Mr. Editor,—In your last number, p. 95, are some queries by a subscriber respecting Cotswold Sheep, which would be answered differently by different persons; but let each person who knows them contribute his mite. There are in various parts of England high rolling lands called wolds, as in Yorkshire, Lincolnshire, Gloucestershire. The last are called the Cotswold hills, from an old practice of cotting or housing sheep, but this practice is now out of date. Cotswold sheep are long woolled, large, and strong built, have white faces and legs, broad noses, and are without horns. They have some Leicester blood in them, from which all the long woolled breeds in England have received great benefit. They are, however, a coarser and hardier kind of sheep than the Leicester.

A few years ago, being amongst the farmers there, I found that large lots of Cotswold wethers, four tooth or two shear sheep, might be had which would weigh on an average 56 pounds per quarter. I there saw them in the butchers' shops, at Gloucester, of full that weight, and close to them were hanging carcases of the beautiful little Ryeland sheep, weighing only 14 or 16 lbs. per quarter, but worth more per pound. In the market were tups for sale, large good sheep; their length struck the eye directly. A Mr. Large, of Bradwell, Oxfordshire, on the border of Gloucestershire, gained many prizes at the Smithfield show, for his Cotswold sheep; one of which weighed 62¼ lbs. per quarter, or 250 lbs. the carcase. But now they are not bred so heavy, two sheep to make the weight are found much better in all respects; and I have seen them latterly, at the London Christmas shows, weighing from 30 to 36 lbs. per quarter.

The remarks of Mr. Smith are *slightly* incorrect. The land on the Cotswolds is not poor, for, if it were so, heavy, long woolled sheep could not live, much less get fat on it. The climate is not cold, being in the south of England, but wet and bleak. These sheep never live hard, and in winter you may see thousands of them feeding off turnips on the land, with a stack of hay in the middle of the field, and no shelter but stone fences, not a tree nor a hedge. They are hardy, good constitutioned sheep, but require abundance of moist as well as dry food in winter, or they would rapidly degenerate in wool and carcase.

In the small territory of Great Britain are various breeds of cattle and sheep, adapted to the soils on which they are kept, and nothing strikes an Englishman more than the little variety seen here. The common sheep of the United States are evidently from the same stock as the heath sheep of England, such as may be seen on Bagshot heath, the Derbyshire hills, and other places. These common sheep have in most districts been crossed with Merinoes, the wool of which ought to be excellent indeed to make up for their ill formed carcases. Of late years many Leicesters have been brought from England, and an excellent breed they are, but coming from a mild, moist climate, and rich soil, some of them and their descendants have suffered severely when wintered in the way that is too common here. Some Lincolns and Southdowns have been brought, but there are other good sheep which have never been introduced. The large Dorsets, which, with a kindred breed of Somerset sheep, supply the London market with house lamb, are well worth being imported and tried in some parts of the middle states. The Ryelands are good sheep, but would not suit the many who look to size instead of symmetry. Would it not be worth while for some of the Agricultural societies to introduce these, with some of the smaller varieties of British cattle as yet unknown here?

The number of sheep kept in England and Scotland is immense, and at the large sheep fairs, at stated times, in every part of the country, a stranger may see every variety. At Weyhill fair, in Hampshire, I have seen 120,000 sheep penned for sale. These were chiefly Hampshire Downs of all ages, assorted in lots, so that a buyer could find ewe lambs in one pen, wether lambs in another, then shearlings, or 2 tooths as they call them, &c. Besides these, but not penned, were many flocks of Dorset and Somerset ewes, some of which then, (10th October,) were within a few days of lambing. In England, beef and mutton are nearly the same price, and the latter is a favorite meat. Here it certainly is not so, for though the beef and pork are good, mutton is not so, and the inferior quality accounts for the price. H.

P. S.—The price of Cotswold mutton, in England, is like that of all the large long-woolled sheep, less than that of smaller sheep; but even these of late years have been bred there with so much pains, that they fatten earlier than formerly, and, not having age, their mutton has not so much flavor as it used to have. Some gentlemen keep wethers to a good age for their own tables; but the farmer, of course, makes the most profit he can, and sells fat, at two years old, sheep which formerly would have been kept to twice the age.

Hints and Suggestions to Farmers. No. V. By B. To the Editor of the New-York Farmer and Amer'n Gardener's Magazine.

[Had B. attentively read the Planter's Guide, we presume he would have qualified his expressions, particularly those in the last paragraph. It is by no means true, that nursery plants always "grow up with more strength and beauty" than larger ones previously selected and trained according to Sir Henry's method. Young trees are liable to many accidents, to be injured by winds, and disfigured by mutilations, &c. But of large trees, only those are selected which are recommended by their beautiful form, symmetry, and established health. We reiterate our opinion that the removal of *larger trees, than are found in our nurseries,* is destined, even in our country, to increase the taste for arboricultural improvement.

In Washington Square, of this city, there were set out, three or four years ago, nearly five hundred ornamental trees, (or rather poles.) Four-fifths of these are, even now, and will be for ten to twenty years to come, sorry representatives of beautiful ornamental trees.—Ed.]

The Planting of Trees, for ornament and profit, for fruit, fuel and timber, has for a long time engaged the active attention of the cultivators, and even the governments of Europe. The existing forests of England are said to have been all planted by the hand of man. The highlands of Scotland, after having been, by a reckless policy, stripped of their timber, have again been re-clothed with wood and beauty, by the indefatigable labors

of the present and last generations. And to such a pitch has the taste for planting been carried in Germany, that the public highways, for hundreds of miles, present continuous avenues of fruit and ornamental trees, from which the traveller regales himself with freedom, and which contribute to the comfort and wealth of the inhabitants. The press has been enforcing the duty of planting, and furnishing directions for rearing forests, and beautifying parks and ornamental grounds. A recent *Planter's Guide*, by Sir Henry Stewart, has just been republished by the Messrs. Thorburns, at New-York, and excited much public attention. I have not seen the work; but the extracts from it which I have read seem but ill adapted to our practice. They relate principally to an expensive mode of removing large trees from the forest to the park: an operation suited neither to our habits nor our means. It undoubtedly contains, however, useful instructions for planting, removing and pruning forest trees; and I hope it may be the means of awakening in our countrymen a more provident care of at least the trees we have left—for our taste has hitherto run counter to that of Europe. While they have studied to increase, we have been wantonly lavish in destroying, these lords of the forest. But we begin to perceive our error, and evince a disposition to correct it; the first evidence of which that I remember to have witnessed, was in the county of Berkshire—*where the first Agricultural Society of practical farmers was established in our country*, and where it yet continues to dispense unnumbered blessings. One of the early acts of that society was to encourage the planting the sugar maple, particularly by the road sides; and the wise foresight which promoted the improvement has now become apparent to all. I was acquainted with the valley of the Housatonick more than forty years ago. I knew it when its Agricultural Society was established; and I have traversed it with delight within the last few months. I know no district which has surpassed it in the measure of its improvement during the last twenty years. Its agricultural features—its flocks and its herds—its moral condition,—the intelligence and enterprize, the industry and happiness, of its population, surpassed in my mind any thing I saw in journeying five hundred miles. And most of this prosperity and improvement, I ascribe, emphatically, to the benign influence of its agricultural society. How gratifying, to the Fathers of this society, must be the reflection, that they have been thus instrumental in increasing the measure of human happiness, and of human virtue. I would not exchange the honor which belongs to them for the pageantry of a court, or the renown of a sanguinary victor.

Instead of adopting Sir Henry Stewart's system of *removing* large trees, we would do well to *preserve* them, wherever they are not likely to interfere with the economy of the farm; and to plant small trees whenever they will conduce to ornament or use. In retaining, however, the second growth is preferable to the first. The habits of the latter, like the habits of the aborigines, are better adapted to the forest than to the field, and when their tall forms are bared, by the labors of cultivation, they are apt to be prostrated by the winds. The second growth, or small trees, grow up with more strength and beauty, and soon adapt their habits to their security. There are many grounds that are not profitable in tillage, which may grow trees without prejudice, and even to advantage, as pasture lands. A growth of forest or fruit trees is highly beneficial, upon the north and west side of farm buildings, in breaking off the cold winds in winter, and affording refreshing shade in summer. The borders of enclosures and highways afford also the means of at once enhancing the value, and beautifying the scenery of our farms. Besides, planting trees is a sacred debt which we all owe to posterity.

B.

Albany, March, 1833.

A Garden of Bijous. By FLORA BRUMAL.

[For the American Gardener's Magazine.]

Mr. EDITOR,—The following communication is from the pen of a lady. An article published in the New-England Farmer, which I now send, contains a little play of fancy on the same subject. If your columns are not likely to be crowded with matter more appropriate to the present gay and animated season, please republish the article after the one now sent. A. W.

Conversing a few days since with a friend who is an enthusiastic admirer of nature in general, and of a garden in particular, I was struck with his descripton of the effect produced in his own garden on a night comparatively mild and humid, succeeding a day of snow, sunshine, and frost. His outline of a picture pleased my fancy, and in an hour of idleness I have endeavored to read the pleasing impression produced upon my imagination by the scenes he described.

Accompany me then in a fancied ramble through an Hyperborean garden, and instead of the desolate wilderness of yesterday, you will find every branch, every tendril, pendant with precious looking gems, from the pale diamond to the deeply blushing ruby; and all in vegetable form, leaf, branch, bed, and flower.

The place of the rose, usurped by its own encrusted berry, furnished us with the semi-transparent cornelian, while the fair Missouri snow-drop (escaped from the general wreck of all that is beautiful) in its new crystal envelope gives us the faint hue of the sapphire.

There too you will find the noble and capricious opal, sheltered, yet illuminated, by the thousand hanging prisms which play around it, giving all the variety and fabled succession of colors attributed to that gem. Nor is the relief of foliage wanting in this parterre of brilliants, since every leaf of the perennial box and laurel forms an emerald of exquisite and indescribable beauty.

Let us penetrate every nook and alley of this enchanted garden, where every thing above, around, beneath, is fantastical, rich and elegant. The paths are embossed with pebbles of nameless hue, the mountain ash, with its broad sheets of scarlet berries, yielding a perfect imitation of masses of coral.

The stately fir, in its clear, cold vestment, presents itself as a tree of the aqua marina, or sea-green beryl. Music and motion, too, lend their aid to complete the illusion: every breath of heaven, agitating the heavy laden branches, teems with the sweet sounds of silver bells, scattering millions of adamantine drops on the paths before us.

Sometimes our progress is obstructed by long wavy wreaths, that fear no enemy but warmth. Now may we gather for our friends bouquets of clustering rubies from the sanguine berries of the nightshade.

Well might the sublime author of the seasons exclaim—

> "Nature, great Parent, whose uncensing hand,
> Rolls round the seasons of the changeful year,
> How mighty, how majestic are thy works!
> With what a pleasing awe they swell the soul
> That sees astonished, and astonished sings."

Yonder hangs a solitary egg-plum, which, in spite of sun, shower, and storm, has hung tenaciously to its native bough, now filled, encased, and transformed by an irresistible element, it may vie with the famous Brazilian diamond of the house of Braganza.

A little further a bunch of withered purple grapes swelled into rotundity, and burnished by the same all-pervading genius, boldly represents the glowing amethyst, which a Plutarch tells us has its name from its color, and is "wine mixed with water."

And can we leave this enchanting scene without gleaning some lesson of instruction? Is it not truly and delightfully said, "There are books in the brooks, sermons in streams, and God in every thing." May we not compare the few lingering relics of the garden, which have escaped the efforts of the burning sun and the severity of the winter's blast, to the remains of virtuous principle, which neither the warmth of prosperity nor the chill of adversity have been able to destroy.

If then even the caprices of nature yield us a useful lesson, how inexcusable are those who have neither an ear nor an eye for its constant admonitions, who suffer the most extensive and the only gratuitous library of useful knowledge to remain unread. Shall I venture to call it that splendid annual, published by its mighty author for nearly six thousand years, every page of which furnishes an inimitable picture of human life, and every line of which presents us an idea and a moral.

The study of nature leads to nature's God. The most ambitious literary aspirant can reach no higher. FLORA BRUMAL.

[*From the New-England Farmer.*]

A little book is kept for extract and occasional remarks, designated the Horticultural Garland, or bouquet of useful and amusing trifles, principally relative to the garden, from which book the following articles are taken.

A. W.

"The destructive spread of the cholera, in and about the city of Albany, prevented the usual monthly visits to the gardens of Messrs. Buel and Wilson, till about the 23d of September. Found the flower garden highly embellished with a beautiful collection of all that is choice and rare, but more particularly the assortment of dahlias, which was found to comprise a very superb collection of the finest kinds.

Mr. Wilson selected some three or four dozen dahlias, which were carried home in good perfection, placed in the flower vases, where they remained eight or ten days. Noticing how much their lustre was faded, and their brilliancy nearly all gone, they were about to be cast away. A woman, who was assisting by a day's work, requested them to grace her parlor. She took them carefully home. A neighboring lady seeing a day or two after such beautiful flowers,

was thankful to obtain them by a present of six or seven shillings in value.

This little recital is made to show that Messrs. Buel and Wilson have some uncommonly fine dahlias; that flowers are cherished and admired by the rich and the poor; that we are all pleased with flowers. "Happy are those who love and cultivate them."

THE GARDEN—DECEMBER.

One of the most interesting spectacles ever witnessed in the garden at this dreary season, (when Nature has stripped vegetation of its glories, and consigned her lovely offspring to their season's repose,) was noticed the early part of this month. A light fall of snow had been suddenly melted by the power of the sun's rays, whilst the thermometer was below the point of freezing. The consequence of this conflict between the two contending powers of heat and cold was that the whole remains of the vegetable tribe were suddenly converted into a mass of shining crystalization. Every tree, every shrub, and every ornamental fixture, were all in the space of a few hours completely enveloped in an icy coat of mail, of the most dazzling transparency, which during two days defied the power of the solar beam.

A group of weeping trees particularly attracted attention; whilst gazing on their pendant slender branches loaded with the purest icicles, the imagination was led to the classic recollection of the weeping deities, whom Ovid described as being converted into trees, and their tears into amber. They might indeed be called the tears of nature on the stern appearance of winter; and yet as the sunbeams elegantly danced among the branches, reflected from every spray, she seemed to be smiling through her tears. —The three-thorned locust exhibited its spikes in dazzling array. The crimson fruit of the barberry appeared like a cornelian enclosed in a diamond. The blackberry of the prim, the delicate snowberry, and the large roan tree berries, were peculiarly beautiful, whilst the humble box and the modest wintergreen had their color heightened by their case of crystal, more than equalling them in beauty. But how soon, how very soon, are these frail fabrics seen to melt away, and involve in their desolation so many gems.

The garden scene so lovely induced a stroll to a neighboring forest. There all was found chilling and unearthly: nature had dressed the whole woods as if for her own amusement —all was awfully grand and impressive. The idea occurred that the whole surface of the earth had been deadened by the paralyzing touch of winter. In the attempt to explore the woods the progress was slow through the brush wood—the branches neither yielding nor resisting, but snapping asunder on a moderate pressure, scattering fragments of crystal in all directions.

What a grand subject for the pencil! Every object around had received its portion of decoration. The very fences and stones were tastefully festooned and fringed, assuming a very picturesque appearance. Such a scene as this induces the reflection that if winter has its horrors, it has its beauties too;

"Let Winter come with stormy voice,
Let snow-wreaths crown the highest hill;
He bids thee in the storm rejoice,
He sees, protects, and feeds thee still."

Lansingburg, 7th Jan. The weather mild and pleasant. The thermometer notes 53. Many persons are noticed seated in their stoops. Flies continue in our dwellings. Very little frost the last ten or twelve days. Ice out of the river. To-day took some pleasant exercise in my garden, dressing borders, transplanting trees, &c. Plucked quite a bouquet of flowers of the heart's ease. The buds of the English lime, filbert, sassafras and Daphne Mezerian, are far advanced in vegetation.

You say in your Farmer, January 2, "A certain quantity of snow taken up fresh from the ground, and mixed in flour pudding, will supply the place of eggs." This quantity is a table-spoonful of snow for each egg that might be necessary; this is known to be the proportion, from the experiments of my family.

Suggestions relative to Farmers' Work for April. By the EDITOR.

This is a very important month with the farmer,—all vegetation is bursting into life. Every agent in nature is brought into requisition. All animated nature begins to feel the vivifying influence of the genial sun. Imitating the activity of nature, farmers should be up and doing.

HORSES.—These should be kept in fine order, that they may be able to retain their flesh and strength throughout the laboring months of April and May. Breeding mares should not only be not worked hard, but care taken that they are not overheated, jerked about, kicked or frightened. They should not suddenly change from hard labor to ease, but should gradually have their work lightened.

COWS.—At this season of the year it is not uncommo n to see cows wretchedly poor, particularly after calving. They are so weak and feeble, from light coarse feeding before calving, which is so trying to their nature, that they have scarcely energies sufficient to regain their wonted appetite and strength.

FOWLS.—At this season of the year fowls get but comparatively little food—neither insects, nor grain from the barn, and the grass is but short, without seeds; consequently, they should continue to be fed.

FENCES.—These should be righted and repaired immediately after the frost is out of the ground. It is very difficult to keep board fence from leaning, or blowing down, particularly in moist ground. This we should suppose might be remedied by having the posts much larger at the bottom, tapering towards the top. In this way there may be great economy in the posts. One as now used will make two that will be more than twice as serviceable. Posts do not decay at the top, but near the ground. Let the fence be as light as possible towards the top, in proportion to the bottom.

GRASS LANDS.—If a supply of fine manure is on hand, scarify your grass lands, and then give them a top dressing with manure. This will greatly increase the quantity of hay. If you have reason to think moles, ants, and the frost, have rendered ground uneven, the grass will be benefitted by rolling.

ARABLE LANDS.—Farmers should study and apply their means to obtain the greatest quantity and number of crops from the least ground, rather than to break up and plant as many acres as possible.

MANUFACTORIAL PLANTS.—Farmers should endeavor to become acquainted with the plants that are used in manufactories, with a view of introducing more or less of them in their routine of culture. Woad, madder, flax, hemp, mustard, oil plants, rape, poppy, rhubarb, and numerous others, are used in the arts, domestic economy, and medicine.

PRUNING.—Forest and fruit trees that were not pruned last month should undergo the operation. Prune lightly, rather than severely. April is thought by many to be the best month for pruning, as the wounds heal over sooner.

MULBERRY.—Let no farmer, who wishes to enhance the value of his own, provide for his children, and benefit his country, neglect to sow a sixpence worth of white mulberry seed, and buy one or more plants of the Chinese mulberry, morus multicaulis. By thus doing, in the course of two or three years he will have several thousand plants. If the multicaulis is increased, by laying it, buds sufficient to inoculate the others will be obtained.

SALT FOR SHEEP.—There have been instances when clear undissolved salt has been considered destructive to sheep. It appears to us unnatural to give any animal raw salt. If their food is rendered more palatable by a moderate portion of salt, it would seem as though it would be beneficial in all instances.

LOCUST.—By an expense of a few shillings, any farmer can procure seed sufficient for many thousands of this useful tree. A writer in a Kentucky paper says he sows the seeds in hills, and cultivates them as he does corn—puts six or eight seeds in a hill. An expeditious way of obtaining a plantation of locust is to set out a number of young trees in various parts of the fields, cultivate the ground as usual, and in the spring, after the trees have extended their roots, cut them down. Numerous young ones will sprout up.

SEEDLING PLUM.—*Mr. Fleet:* SIR,—I have for several years past patronized your paper, and still feel a strong partiality for the same, but my pecuniary means are too limited to allow me to continue a subscriber. I have, therefore, discontinued it, but am disposed to do all in my power to forward your views. I therefore send to you a number of grafts from a Seedling of my own raising, which I call the COLUMBIA GAGE. The fruit is of the shape of the Green Gage, of about two ounces in weight, and not dissimilar to that of the Green Gage, except that it is more tart, and of the purple color. You will please to put them into such hands as will use them in the best manner. If it should be in your way to visit this place, I should be happy to have you call on me and take a view of my apiary, as I keep a small stock of bees, on which I should have made a communication had I been a scholar, of which I need not tell you that I am not.

Yours, &c. L. U. L.

Hudson, N. Y., 1833.

REMARKS.—The above grafts have come in good order, being stuck in a potatoe. We have left a part of them at the office for any one who will make a good use of them, and, when in his power, will make a suitable return. We are sorry Mr. L. cannot afford to continue the paper. We will send him the Plough-Boy, and hope he will furnish us, without delay, a communication on bees, and on other subjects, as often as he conveniently can, not even thinking of his scholarship.

Retrospective Criticisms on the First Series of the New-York Farmer. By the EDITOR. Vol. 1. No. 3. [Continued from page 74.]

POTATO.—Mr. Wm. Wilson, in 1823, read an article before the New-York Horticultural Society, on the method of preventing the deterioration of vegetables, particularly of the potato. From the fact that most of the cultivated edible plants have been very greatly improved, the "greater is the care to be observed by the horticulturist to prevent them, in any degree, from falling back,"—not only from deteriorating, but to increase that improvement so laudably commenced by horticulturists. Mr. W. had had twenty years of experience in the cultivation of the potato, "in various soils, from the heavy clay to the lightest sand." The means of improving this, as well as other vegetables, are to take the utmost pains to select the best seed, and to plant in a soil and climate most appropriate. In Great Britain light dry soils are found the best, but, says Mr. W., "a strong heavy loam" is by far the best to produce the "driest and best flavored potatoes, and most abundant crops." This soil must be "well labored, moderately manured with horse-dung or light compost; the potatoes planted at a good distance, and the earth kept clear, free, and loose, by frequent hoeing and ploughing." This paper of Mr. W. is a valuable one. Quere—Is Mr. Wilson the first who publicly taught that a heavy loam is preferable to a light soil?

CARROTS, BEETS, AND PARSNIPS.—Mr. Wm. Curr says carrots and parsnips may be sown as soon as the ground is fit for work in the spring—beets, being more tender, should be sown later. Between the fifth and sixth drills there should be a wider space, for the convenience of hoeing the bed. The drills for carrots and beets 12 inches, and for parsnips 16. When the leaves of the latter are very luxuriant, they should be broken down by trampling, or by drawing a roller over them. If parsnips are taken up in the fall, they should be alternated with a layer of dry soil or sand in packing them.

AGRICULTURAL SCHOOLS.—Professor Eaton expresses himself strongly against the feasibleness of introducing manual labor into schools. He supports his observations by asserting that Fellenberg had "totally abandoned in practice the plan" of uniting mental and manual labor;—an assertion which we believe succeeding events have shown that the Professor was misinformed. He also states that, "I have tested by numerous trials the laboring plan of education, and that I do not believe it ever did, or ever will, succeed." We expressed at the time a decidedly contrary opinion, and we are happy to find that we prophesied correctly. We then thought, and now think, that the practice of learning an art or trade while obtaining an education, will become as general as it has been to pursue them separately, or to cease going to school when commencing to learn a trade.

THE POTATO.—An excellent article on this root, by J. Buel, Esq. He lays down four rules: 1. That the best potatoes are grown upon cold, moist, and porous soils. 2. That when dug, they should not be exposed to the sun, but should be stowed away with more soil than what adheres to them. 3. That their surface should be kept moist, and the atmosphere which surrounds them as little above the freezing point as possible. 4. That those of medium or small size are naturally the best for all purposes; for they generally possess the best flavor, and contain the most nutricious matter, according to their volume. He supports his first by the fact that the best potatoes grow in the western counties in England, in Ireland, and in Nova Scotia, where the average temperature of summer is probably 20 degrees lower than in New-York, and where clouds of fog obscure the sun the greater part of the season. In reference to the second, he says they deteriorate, become clammy, and partake of their original noxious properties in proportion as they are exposed to dryness and the sun. On the third he appeals to general observation, and calls to his aid his own experiments. Chemical Analysis, [British Board of Agriculture, vol. 4,] exhibits as much nutricious matter in one pound of the small kidney as in two of the large ox-noble.

HEMP MACHINE.—The Legislature of Pennsylvania passed an act offering $10,000 to the person who shall, on or before the first day of March, 1835, exhibit the best machine for reducing hemp or flax, without dew or water rotting, to the state for manufacturing.

POSTS.—A correspondent states, that posts taken from full grown trees will last longer than those from young thrifty ones—and from the part near the limbs longer than from the butt end. When put in the ground they should be reversed—upper part down.

PLANTING THE VINE.—Mr. Loubat recommends planting two and three year old rooted vines, in preference to cuttings—supposes one third of the cuttings to die, and to come to a full bearing state two or three years longer.

Ploughing in Hot Dry Weather. By R. M. W. [For the New-York Farmer.]

MR. FLEET,

In the fifth volume of the New-York Farmer, page 321, I have noticed some editorial remarks concerning ploughing and hoeing in the heat of the day. You will observe that the object is not to condense the moisture of the atmosphere. This moisture, in order to afford food to plants, I conceive must be dissolved in caloric. The moment it is condensed it affords little or no support to plants; the circulation of moisture in plants is said to be very similar to that of the arterial and vener circulation in animals, that is, the moisture received by the capillary vessels of the leaves reaches the roots, and little of this moisture ever reaches the earth, but is taken up before it reaches there by the leaves of plants. The moment this is condensed it can no longer enter by the capillary vessels into the vegetable circulation. To plough then in the afternoon, or to place cold bodies in the neighborhood of plants, would be rather injurious than beneficial. Such are my ideas on this subject, and I remain yours, &c. R. M. W.

February 11th, 1833.

Vegetable Sexuality. By S. To the Editor of the New-York Farmer and American Gardener's Magazine.

SIR,—In perusing "Stroud's Elements on Botany," I have been much pleased with many observations on "Vegetable Sexuality," especially in reference to the *Valisneria spiralis*, from the pen of Dr. Darvin.

On the subject of Vegetable Sexuality, the author observes—"In plants of two houses, which produce their stamens and pistils on different roots, nature has provided many curious methods to bring their pollen in contact with the stigmatæ of the female flowers; of these the most singular is that of the *Valisneria spiralis:* this singular plant is wholly submersed, except the female flowers, which are furnished with an elastic spiral stem; this spiral, when extended, is from three to seven feet, or more, in length, and when the river either rises or falls it still allows the female flowers to float on the surface: the male flowers expand in their submersed situation on short scapes, which, when their anthers are ready to burst, detach themselves from the plant and float on the surface of the water, when the current bears them, or the winds propel them, to the female flowers. Dr. Darvin, in his *Botanic Garden*, has the following beautiful allusion to the circumstance:

As dash the waves on *India's* breezy strand,
Her flush'd cheek press'd upon her lilly hand,
Valisner sits, up-turns her tearful eyes,
Calls her lost lover, and upbraids the skies;
For him she breathes the silent sigh, forlorn,
Each setting day; for him each rising morn.—
"Bright orbs, that light yon high ethereal plain,
"Or bathe your radiant tresses in the main;
"Pale moon, that silver'st o'er night's sable brow;—
"For ye were witness to his parting vow!
"Ye shelving rocks, dark waves, and sounding shore,—
"Ye echoed sweet the tender words he swore!—
"Can stars or seas the sails of love retain?
"O guide my wanderer to my arms again!"

S.

Albany, February 20, 1833.

Introduction of Choice and Rare Fruit. By AN AMATEUR OF FRUIT. [For the New-York Farmer, and American Gardener's Magazine.]

MR. EDITOR,—I was much pleased to find in your number for September, under "Items of Farmer's Work, &c.," that you have very properly recommended to farmers the utility of selecting and planting of the different varieties of rare and choice fruit, which is much wanted, especially in the western part of this state. If this was duly attended to, much good might be expected to arise therefrom to all classes of people, and particularly the *grower*.

I hope your advice "to buy, and not to beg, buds and scions," may have its desired effect. The practice of begging cuttings of rare fruits has become so general, and perhaps, it may be said, *unreasonable*, that it has greatly deterred many enterprizing horticulturists from cultivating rare fruits, from the continual applications from all quarters for scions, by *amateurs* of fruit, &c. Nurserymen, also, suffer by introducing rare fruits at great expense. The demand will not compensate them for their trouble, which certainly is but slender, if the giving *system* is long continued. Thus the cultivation of fine fruit will be retarded by the penurious disposition of its principal *advocates*.

AN AMATEUR OF FRUIT.

Mixture of Vegetables by the Roots. By J. ROBINSON. To the Editor of the New-York Farmer and American Gardener's Magazine.

I offer the following facts relative to the mixture of seeds, and vegetables, with a view to accredit the testimony and facts of the "Old Man," and Mr. T. Bridgeman, contained in your former numbers.

I was for many years anxious to obtain a sort of kidney beans, said to be stringless, even when old. I at length succeeded in get-

ting some, which I found came up to the mark. They were superexcellent in quality, and perfectly stringless, but through carelessness and neglect, they got mixed with others of different shape add color. Being anxious to cultivate this valuable sort by themselves, I assorted every bean with my fingers, and planted them at a distance from all others; this I done more than once, but at last they had become so infected from growing with others of a different nature, that they proved to be a spurious breed, so that I at length had to abandon them. I could produce other corroborative facts, but this is sufficient to establish Mr. Bridgeman's doctrine; namely, that "as it is in the animal frame, so it may be in the vegetable system. Disorders very frequently lay dormant from one generation to another, and at length break out with all their vigor." I have therefore come to the same determination as Mr. B., and shall not attempt in future to "bring a clean thing out of an unclean thing." Whenever I discover a mixture of vegetables of the same class, growing together, I shall not attempt to raise seed even from the best of such.

J. Robinson.

Williamsburgh, L. I., March 1833.

Suggestions Relative to Gardeners' Work for April. By the Editor.

This is a month of much activity among gardeners. He who is diligent in enriching his soil, in comminuting it, in the selection of the best seed, and in covering them in such a manner as is most calculated to promote and sustain vegetation, will, under the ordinary blessings of Providence, meet with encouragement and reward;

"——— So from the root
Springs lighter the green stalk; from thence the leaves
More airy; last the bright consummate flower."

Occupying the Ground.—At this day it is a recent opinion that the soil requires no rest; consequently, the more that is obtained from a given portion of ground the better, provided it is well manured and a proper rotation pursued. Some persons will get twice the number as well as quantity of crops from a garden spot. Peas, for instance, may be planted on the sides of the bed of radishes. By the time the former are of much height, the latter will be sufficiently large to be pulled. Those who have no ground, manure, nor labor to spare, should set out their cabbages beside the fences, at the corners of the beds, and in vacant places. A clergyman informs us that he has, in this way, raised a large number of superior cabbages without apparently occupying any portion of the ground.

Globe Artichokes, *Cynara.*—Sow the seeds early in this month, in a bed of light moist earth, preparatory to transplanting next spring. This is an excellent vegetable; will produce good heads for six or seven years.

Asparagus.—Early in this month the seeds should be sown in a very rich bed. Those who already have plants, should transplant them into ground that has been well manured, and dug two spades deep. The rows should be near one foot apart, and the plants in the row about the same distance.

Beets.—Sow the seed in rich mellow earth from the first week in April to June.

Radishes.—Most garden soils are considered unsuitable for radishes. A mixture of two parts of sand with one of common garden or clayey earth, and a little manure, will give brittleness and transparency to the radish. Sow in succession until the middle of May.

Cabbages.—The first of this month sow the seeds of the early kinds for summer use.

Carrots.—Sow, for successive crops, from the first of April to June.

Celery.—Sow the seed in moist mellow ground early this month. As soon as they are two or three inches high, prick them out into another bed.

Cress, or Pepper-Grass.—Let this pleasant salad herb be sowed every week.

Garden Burnet.—This is considered a good salad herb. Sow in April.

Indian Corn for boiling—the early varieties sow in the latter part of April.

Lettuce—sow in warm borders in the middle of the month, and in succeeding weeks.

White Mustard.—This is a pleasant salad, sown in April and May, in successive weeks.

Nasturtium.—Sow the major or climbing variety near fences, and the dwarf in hills.

Onions.—Dig the ground early. Sow the seed in tha middle of the month, either broad cast or in drills. The white Portugal and the silver skinned varieties are mild in their taste, and produce good crops.

Parsley and Parsnip.—These are generally sown in the latter part of this month, in drills. The latter we consider one of the best vegetables put upon a table.

Peas.—The early kinds should be put in the ground as early as possible, and in successive weeks. The dwarf varieties require a soil less rich than those that grow high. Vegetable manure is considered better than animal matter.

Beans.—The English dwarf, (vicia fubia,) are planted early in April. Dwarf kidney and pole beans in the latter part of April, and in May and June.

Potatoes.—There are various varieties of this valuable vegetation. Those called the *early* are less productive. Plant in hills or drills, in a rich loamy soil, from the first week in April until July.

Sweet Potatoes, if planted in this month, should be put in a hot-bed, or under glass, and then the sprouts separated and transplanted.

Among other plants to be attended to this month are rocambole, rhubarb, salsofy, scorzenara, sea-kale, sorrel, skirret, spinach, and horse-radish.

Manufactories, Botanic Garden, of Liverpool, and Railway connecting Liverpool with Manchester. By B. P. [For the New-York Farmer and American Gardener's Magazine.]

Liverpool, though situated in the most extensive manufacturing *county* in the kingdom, is not in itself, properly speaking, a manufacturing town, still many branches of manufactured articles are on an extensive scale, viz. Potteries, breweries, foundries, &c. The making of files, watches, watch movements and tools used by watch makers, is carried on to a greater extent probably in Liverpool and its environs than in any part of the kingdom. There are also extensive manufactories of chain cables, anchors, steam engines, &c. There is also an establishment for glass staining in landscape, figures, or ornaments; the art is brought to a high degree of perfection, and has a most beautiful effect in church windows.

The *Botanic Garden* is pleasantly situated in the environs, and is enclosed by a stone wall with two ornamental lodges at the entrance, and a very large conservatory. It appears to be under the eye of those who have not only the taste but the means of gratifying it, as every thing appears to be of the most permanent construction. The taste for botanical studies, and the establishment of such a fine garden as that at Liverpool, is worthy of imitation by every large city. To describe the contents would be tedious; suffice it to say, the garden appeared to contain every species of useful and ornamental fruit or flowers. Strangers are admitted by taking a note from any of the directors to the superintendant.

Liverpool abounds in fine public buildings, charitable and literary institutions, several fine monuments, &c. but I pass over them to give you a short description of the railway which connects it with Manchester, and which is probably one of the most stupendous undertakings of the age. The work was commenced in June, 1826. The entrance commences in Wapping, near the Docks, and passes under the town in a gentle curve to the right or south-east, till it reaches the bottom of the inclined plane, which is a perfectly straight line 1,980 yards in length, with a uniform rise of $\frac{3}{4}$ of an inch to a yard. The tunnel under the town is 22 feet wide and 16 feet high, the sides being perpendicular for 5 feet in height, surrounded by a semi-circular arch of 11 feet radius—the total length is 2,250 yards. It is whitewashed throughout, and illuminated with gas. At the upper or eastern end of the tunnel, the traveller emerges into a spacious and noble area 40 feet below the surface of the ground, cut out of the solid rock, and surmounted on every side by walls and battlements. A massive Moorish archway stretches across the road, close by the engine houses, which are employed in the generation of steam power to draw goods from the mouth of the tunnel in Wapping, and the carriages with passengers through the tunnel on their return from Manchester. Crossing the street the road descends for five miles and a half at the rate of 4 feet in the mile. At a little distance it is carried through a deep marl cutting, under several stone arches, beyond which is the great rock excavation through Olive Mount; the depth is 70 feet.

A night journey through this artificial ravine must be highly interesting and sublime; a few minutes suffice to carry the traveller to the magnificent embankment between Broad, Green, and Roby, which in fine weather presents a portion of the most interesting and varied landscape which meets the eye during the journey to Manchester. On the right a superb line of trees partially bound the view for some distance, when Childwald Vale bursts upon the sight, with its gently rising green slope; on the side of which the church peeps through the trees, and forms an object of uncommon interest; its dark red color firmly contrasting with the masses of fine green foliage by which it is surrounded.

"——— The land was beautiful:
Fair rose the spires, and gay the buildings were,
And rich the plains."

The Abbey of Childwald and its grounds display themselves still farther in the rear; Roby Hall and domains, with the richly wooded townships of Little Woolton and Halewood, the lofty back ground of Runcorn in the distance; on the left, Summer Hill and its beautiful grounds, a richly cultivated country, broken up into picturesque variety by the nature of the ground and the varied bodies of foliage and forest scenery which mark the sight of Knowsley Hall, a glimpse of which may be caught *en passant*. The venerable tower of Huyton Church rising above the trees seems to dispute the way in front, whilst the spire of Prescot Church forms a conspicuous object a little more to the left. On the summit of the hill, eight miles from Liverpool, begins the inclined plane at Whiston, which rises at the rate of $\frac{3}{4}$ of an inch in a yard, and is a mile and a half long. About half a mile from the top of this plane the turnpike road from Liverpool to Manchester crosses the line of the railway, by a substantial stone bridge of very curious mechanical construction. We then soon come to what is called Parr Moss, the depth of which is about 20 feet; and here the material forming the railway, as it was deposited, sank to the bottom, and now forms an embankment in reality 25 feet high, though only 4 or 3 feet appear above the surface of the Moss.

The borders of this waste are in a state of increasing cultivation, and carrying the railway across this Moss will hasten the enclosure of the whole area. Leaving Parr Moss the great valley of the Sankey speedily breaks upon the sight, with its canal at the bottom. Over this valley the railway is carried along a magnificent viaduct of nine arches, each 50 feet span, the height from the top of the parapets to the water in the canal being 70 feet, and the width of the railway between the parapets 25 feet; from this spot a splendid prospect of the country is obtained, with the meanderings of the canal through a richly wooded country, where the vessels which navigate the Mersey may frequently be seen moving along the canal, impelled by the wind apparently through fields, with all their canvass set, amidst trees and rising grounds, forming a view at once unique and picturesque—whilst the most distant part of the landscape, Newton race-course, and a luxuriant back ground, on the left, with Barton wood, Winwick spire, and all the varieties of a rich agricultural country, embracing the lonely vale through which the canal runs towards the Mersey, on the right, presents a scene on which the eye delights to rest. A distant view of Warrington with the upper reach of the Mersey and Helsby Hills in the distance, form prominent objects. On the other side of Newton is the great Kenyon excavation, near the end of this cutting the Kenyon and Leigh junction railway joins the Liverpool and Manchester line, pointing to the two towns respectively; this railway, at the same time, by means of the Bolton and Leigh line, perfects the communication between Bolton, Manchester and Liverpool. Beyond Bury-lane and the small river Gleas or Glazebrook, lie the borders of the far-famed Chat Moss.

This barren waste comprises an area of about 12 miles square, varying in depth from 10 to 35 feet, the whole Moss being of so spongy a nature that cattle cannot walk over it, but it is now under a process of draining and cultivation: over this morass the road is carried. There is little of interest in the scenery except on the left, Worsley Hall and grounds, Tidsley Church, with the back ground of Billinge Hills. Having accomplished the passage of the moss and traversed the Barton embankment of about one mile, the railway crosses the Worsley Canal, and here the traveller first sees indications of a manufacturing district. Cotton factories begin to appear, and as the road approaches Manchester the scene acquires additional interest from the presence of several country seats. The immediate approach to Manchester is through Salford, over the river Irwell; a very handsome stone bridge and a series of splendid arches finally conduct the railway to the Company's station. The bridges alone, exclusive of the culverts and foot stages, are sixty-three in number, which have cost the Company £99,065 11*s*. 9*d*. As an instance of what may be accomplished by the railway, the following is annexed, which took place in February 1831.

The Locomotive Engine, called the Sampson, started from the tunnel mouth with thirty loaded waggons, occupying a line of 120 yards long. The weight of the whole was as follows:

Gross weight, 151 tons.

	Tons.	Cwt.	Qr.
Net weight of Oats and Sacks	82	10	0
Do. of Merchandize	24	15	0
Do. of 15 persons	1	00	0
	108	05	0

She performed the journey to Manchester, a distance of twenty-nine miles and three quarters, in two hours and thirty-four minutes, including a stop of thirteen minutes for taking in water—her greatest speed was twenty miles per hour, and the average about twelve miles per hour. Although the railway cost £820,000, equal to $3,630,800, still the profits are such that the shares bear a very high premium. The arrival of an American in a place like Manchester is generally attended with unpleasant sensations; the coach generally leaves passengers at the "Bridgewater Arms," an old inn, and more worthy of a preference from its antiquity than its excellence. A little observation will soon learn a traveller that passengers arriving in the coaches do not receive the attention that those who come in a post chaise or private carriage do. Appearances often command respect and attention even in our republican country, and in all countries often take the place of worth.

Manchester is larger than Liverpool, and is second only to the metropolis. Many of the dwellings and warehouses are built on narrow and crooked streets, principally of brick, of a very dusky hue, which is much increased by the coal smoke from the numerous manufactories and dwellings, hence they have a dark and gloomy appearance, which is much increased by the very frequent rains which fall in Manchester, and which are attributed to the mountainous regions in the vicinity. Few places are less interesting than Manchester, excepting always her manufactories; and the misery, want and wretchedness of the operatives would almost make one wish that manufactures had never advanced, and ancient modes of the wheel and distaff been confined to private families as formerly. A writer remarks, that of the thousands that throng Manchester, crowded together in narrow streets, where the everlasting din of machinery is heard, you scarcely see a person whose appearance bespeaks comfort. However, we saw some interesting objects, which I will describe in my next.

Yours truly, B. P.

Beet-root Sugar in France—Tariff Duties. By H. To the Editor of the New-York Farmer and American Gardener's Magazine.

Sir,—In your number for February, p. 60, is an article on the manufacture of sugar in France, from beet-root, referring to the account published in the British Quarterly Journal of Agriculture. This manufacture is mentioned as an instance of the good policy of France "in protecting her own interests and her own productions." A more unfortunate instance could not have been chosen. The papers on beet-root sugar are well written by an enthusiast in the cause of beet and protection. These you will find in vol. 1, p. 624, and vol. 2, p. 892, of the Quarterly Journal, and at page 907, of vol. 2, commences an answer to them which settles the question as far as reasoning and facts are concerned, so that the "bane and antidote are both before you." If you reprint the first, it will be only fair to reprint the other, as both contain much curious matter. The commercial policy of France "is a revival of the worst errors of the ancient mercantile school;" it has defeated its own end, and her most enlightened merchants have protested strongly against it. The editor of the Quarterly Journal has briefly shown its disastrous effects in silk, iron, cotton, &c. before he examines the beet question. This sugar is so outrageously protected, that the consumption is nothing to what it would be with a reasonable duty, for on the consumer falls every duty. This in 1822 was fixed at 95 francs per 100 kilogrammes, which, unless I am mistaken, is nearly 8 cents per pound, and the makers all declare they can pay no tax on it, and can not live without the present protection: that, is without making the consumer pay twice as much for sugar as it is worth.

In Great Britain the duties on sugar are quite high enough, producing a revenue of nearly £5,000,000 sterling, yet it is sold at a reasonable price, for in England and Wales the consumption for the whole population is 22 lbs. per head; but in France only 4 lbs. per head. This speaks for itself. The memorable answer of the French merchants to Colbert, when, as the organ of the French Government, he asked them, "What can I do for you," was "Let us alone." Napoleon could not understand this, nor does the French nation yet see it. Rules and regulations, and duties, are yet the order of the day, and the commerce of France, under this system, has been and is nothing for a country so favored by nature, as to soils, climates, and natural productions. H.

REMARKS.—We should be happy to have from H., or others of our correspondents, some well digested information on the subject of protecting duties, so far especially as they relate to the agricultural interest. We hardly think the low state of commerce in France can be attributed to the protective system. Her extensive and devastating wars have been suffi-

cient to paralyze the energies, and to destroy the resources of any country; and consequently it is very difficult to ascertain the operative effects of her protective policy.

Suggestions relative to Florists' Work for April.
By the EDITOR.

Green House.

RE-POTTING.—Plants that were not re-potted last month, should be put into fresh suitable soils. Care should be observed to disturb as little as possible the fibrous roots.

LIGHT AND SUN.—Health and luxuriance of growth cannot be expected in the absence of very considerable light and heat, as well as pure air. The last is required to habituate them to the exposure to open air.

WATERING.—As the warmth of the weather increases, the watering must be gradually increased. Those of soft shrubby nature, and growing freely, require more water at a time than those of a harder texture. Plants generally suffer more from superabundance of water than from dryness. The beauty of the foliage and the general health of the plants are promoted by being syringed two or three times a week in dry weather. The flowers, however, are rather injured by the water.

HEAT.—Should the sun injure the plants, particularly those near the glass, let the glass be lightly whitewashed.

HERBACEOUS PLANTS AND BULBOUS ROOTS.—Divide and re-pot those that were omitted last month. They should be moderately watered two or three times a day. Cape bulbs, that begin to lose their foliage, require a decrease of water. After the foliage is off, dry the bulbs, and pack them in dry moss. Pots containing Dutch roots that have flowered should be laid on their sides, to ripen the bulbs; or plant the contents of the pot in a bed in the garden.

FLOWERING PLANTS require but comparatively little sun while in flower. Flowering stocks for seed should be set out into beds.

Flower Garden.

ANNUALS.—The seeds of these generally may be sown from the middle of April to the latter part of May.

BIENNIALS AND PERENNIALS.—Biennials from the green house should now be transplanted, and the seeds sown.

PERENNIALS.—These should be divided and replanted, carefully watered and sheltered. Among the flowering plants which should be selected are the numerous varieties of the Chinese monthly roses, which are of all hues, the climbing roses, such as the splendid Champney, the Noisette, Musk Scented, Lady Banks', Greville, and numerous others, the various climbing plants.

DECIDUOUS SHRUBS.—In transplanting, great care should be taken to preserve as many fibrous roots as possible, and to keep them from becoming dry. They should be planted before the foliage puts forth, that they receive no check.

EVERGREENS.—During this month these favorite plants should be taken up and set out with as little delay as possible. After the roots are partly covered, water should be poured on in successive times. The appearance of the ground around the plant is not improved by pouring water on the last or top layer of earth.

THE WALKS.—Grass walks should be often mowed and swept, and gravel paths require to be rolled often in the spring, particularly after rain.

BOX EDGINGS.—This plant should be clipped about the middle of this month. Box edgings should seldom be allowed to grow but a few inches in height, generally only three or four.

Rooms.

AIR AND WATER.—If plants are judiciously supplied with these, as well as with light and sun, they will do well in windows or rooms. In mild days they should be taken out-doors in the shade, and syringed. Some ladies will make their plants in their rooms surpass in appearance those of many green houses. When first taken from a green house, they should not be exposed to much hot sun, but should have light to brighten the colors of the flowers.

NEW-YORK FARMER.

APRIL 1, 1833.

APPLE CUTTINGS.—We have just received from Mr. J. Garber, of Columbia, Penn. a box of cuttings. Any person by calling at this office can be supplied.

A GUIDE TO ORCHARDISTS.—Mr. Michael Floy, well known as a florist and nurseryman of this city, has just published Mr. Lindley's celebrated work with the above title, with additions, notes, and corrections. We have not had time to read the work, but have no reluctance, from Mr. Floy's experience, and accurate knowledge, to recommend the work as one, the merits of which will render it a standard. The work is closely printed, and contains more matter than the English edition, with half the price.

We should be pleased to hear from "A Native of Saxony," on the following subject:

PECULIAR METHOD OF TURNING WOOL INTO FUR.—The wool-growers of Podolia and the Ukraine, and also in the Asiatic province of Astrachan, have a peculiar method of turning wool into fur. The lamb, after a fortnight's growth, is taken from the ewe, nourished with milk and the best herbage, and wrapped up as tight as possible in a linen covering, which is daily moistened with warm water, and is occasionally enlarged as the animal increases in size. In this manner wool becomes soft and curly, and is by degrees changed into shining beautiful locks. This is the kind of fur which passes under the name of Astrachan, and is considered on the continent as the most genteel lining in winter cloaks. Similar trials with German sheep have been attended with the same success. The Saxon breed of sheep have, within the last ten years, superceded the merino, and their wool is of superior quality.

GOLDEN LEAF TOBACCO.—*Mr. Minor:* From some pamphlets and papers on Agriculture, presented me by Judge Buel, of Albany, and some other sources, I find your paper, entitled the "New-York Farmer," highly spoken of as valuable to farmers. I therefore take the liberty to enclose you a paper of genuine Golden Leaf Tobacco Seed, which I procured through our Representative to Congress, William G. Angel, Esq. I procured it on the recommendation of the late Governor Clinton to our Legislature, after sending to the south part of Ohio, and two or three times to Maryland, the only two states Gov. C. mentioned in his Message where it might be had. I have (as Judge Buel thinks) been the only person that obtained it in the Northern States. I have raised it two seasons; it has four times the weight on each plant of our old kind here, and is worth much more in market, even three times, as I am informed by Messrs. Chapman & Sergeant, Murdock, and other tobacconists in Albany, and so I presume they will tell you in New-York. My son, Hiram Matteson, advertised the seed last year, and they sent for it from all parts of the Northern States, Ohio, Michigan, and Upper Canada; but the very extraordinary backward season did not permit much, if any, of the seed to get ripe. I therefore sent to Maryland for a fresh supply—its culture is considered of the greatest importance and value of any crop we can raise.

I have this seed for sale at one dollar per spoonful. Letters, post paid, directed to Matteson's Mills Post Office, Exeter, Otsego county, N. Y., will be attended to, and directions sent for culture. It must be sown in April.

Yours respectfully, Z. MATTESON.
Exeter, Otsego co., N. Y., March, 1833.

THE BOLD PEASANTRY.—The following communication formed the entire contents of a letter sent to us three or four hundred miles. Although it contains no important fact, yet we should be pleased to have the brief thoughts of our correspondents much more frequently than we do, particularly when sent free of expense, as in the present instance.

"Ill fares the land, to hast'ning ills a prey,
Where wealth accumulates, and men decay;
Princes and lords may flourish, or may fade,
A breath may make them as a breath has made,
But a bold peasantry, their country's pride,
When once destroy'd can never be supplied."
Goldsmith's Deserted Village.

Mr. EDITOR,—Never was more truth spoken in fewer words than in the above lines of Goldsmith: that the lawgivers of our country may be careful how they destroy the bold peasantry of this country is the devout wish of

Yours, &c. R. M. W.
Middlesex, 6th March, 1833.

SWEET POTATOE PUDDING.—The following poetic effusion is from the Knickerbacker, a monthly literary publication of much merit, lately under the editorial charge of C. F. Hoffman, Esq. Now is the season for those who are fond of the Sweet Carolina, to bethink themselves on their culture.

From the February number of the Knickerbacker.

RECIPE FOR MAKING SWEET POTATOE PUDDING.

Oh, bring me from far, in a Southern clime,
The sweetest potatoes that ever grew;
Such apples of earth as the olden time
In its visions and prophecy envied the new.
And wash them with lady-like lily hands,
Till they look as pure as the saffron light
That falls in the summer on fairy lands,
From the moon in the depth of a cloudless night.

And let them be next of their skins beguiled,
But tenderly strip off the earthly vest,
As if you were flaying a sleeping child,
And were cautious of breaking its gentle rest;
And let them be pulverized next by the skill
Of the same white hands and the grater's power;
And a heaping up table spoon five times fill
With the precious result of their golden flour;
Of boiling hot milk add a full quart cup,
And next with five eggs, in a separate bowl,
Beat five table spoonfuls of sugar up,
And stir them well in with the foaming whole.

Add one table spoonful of *eau de rose*,
Of salt a tea spoonful; and after these
Of butter an egg-sized morsel; and close
With a flavor of nutmeg, as much as you please;
Then bake it—'tis pudding—I pause at the name
To reflect on the puddings of days that are past,
And the prospects of more, which aspiring to fame,
And failing, I've lost to go hungry at last.

PLASTER AND LEACHED ASHES.—A farmer, Mr. J. Spicer, says, in the Genesee Farmer, that he mixes plaster of paris with the same quantity of leached ashes, and puts one gill to each hill of corn after the first and second hoeings.

LEAVES.—A correspondent in the Southern Agriculturist says, he hauled into his cowpen, from the middle of July to the middle of October, between fourteen and fifteen hundred loads of leaves.

TO DESTROY FOWL-LICE.—A decoction of tobacco, mixed with a little spirits of turpentine and gunpowder, applied to the nests and skin of fowls, is recommended to destroy the lice.

FEEDING DUCKS WITH ANIMAL FOOD.—A writer in the Southern Agriculturist details a very interesting experiment in raising young ducks, by feeding them with animal food instead of grain and other vegetable substances. "I had," he says, "ascertained by dissection, that their gizzards were filled, not with vegetable food, but with the fragments of small craw-fish, worms and various aquatic insects, as well as the spawn of fishes." He first fed young ducks on chopped beef. "The effect upon their health and growth was immediate and surprising." Afterwards he tried cheaper animal food with equal success. He recommends to keep the young ducks dry.

CHANGING SEEDS.—It would seem by the results of experience, that it is generally owing to injudicious management, that a farmer should be under the necessity to change his seed after once having had a superior kind. A farmer, Mr. Benjamin Cooper, of Camden, New-Jersey, in the New-England Farmer, says, "I can speak from about forty years of observation and experience, that seeds not natural to our climate, instead of degenerating, have a tendency naturally, by care and proper cultivation, to become more acclimated." After speaking in favor of trying experiments, he says, "I will now give an instance of a trial made by one of my ancestors more than sixty years ago; he planted some of the small kind of chicken corn, (or as the children call it pop-corn, from its bursting so handsomely when roasted on a shovel,) which usually produces from four to eight ears on a stalk, with the common large Indian corn, and improved from that mixture, for a few years, until he got what he thought a good and perfect kind. This same kind has been annually grown in the same farm since that period without any other mixture, and to this time the usual product is from fifty to seventy-five bushels." A similar experiment, with like results, was tried by the same person in raising squashes. He has planted for 20 years the Foxite potatoes without deterioration. His rye is from a remarkably large seed, and is much whiter than common.

THE MUD OF THE NILE.—Egypt, as is well known, derives its fertility from the overflowing of the Nile. The deposit or mud gives an analysis nearly one half of argillaceous earth, one-fourth of carbonate of lime, and the remaining fourth of water, carbonate of magnesia and oxide of iron. It is used as the only manure to enrich those portions of the ground which contain little or none of it.

SILK SPINNING AND TWISTING MACHINE.—Mr. Adam Brooks, of Scituate, advertises a patent machine, at the New-England Farmer office, that will "draw the thread, and twist at the same time from cocoons enough to make the thread of any size required, and make it as much or as little as is wanted for weaving, knitting, and double and twist the sewing silk in the neatest manner—all with one operation."

ORCHARD GRASS.—This, as well as many other light chaffy seeds, should be sprinkled with water, and allowed to become well moistened before it is sowed. If it is well mixed with a little plaster or lime, it can be sown with more ease, and have its vegetation promoted.

TO CURE BOTTS.—Among the remedies for botts, is the administering of a quart of fish brine. Mr. E. H. Cummings says he has saved several very valuable horses by this remedy.

TO CURE FOUNDERS.—Col. B. Chambers, of Paris, Ky., pounds and dissolves in water a lump of alum the size of a walnut. With this liquid the horse is drenched, when he is thrown into a profuse perspiration, and immediately relieved.

BROKEN WIND.—An instance is given of a horse with a broken wind being cured by drinking for weeks water from the bottom of a lime kiln; therefore give lime water.

SILK COCOONS.—Mrs. Parmentier has received a diploma from the American Institute for the morus multicaulis exhibited at the Fair in October last, and her daughter a silver medal for her experiment in raising cocoons fed on the morus multicaulis.

ERGOT IN RYE.—Spurred rye is generally considered poisonous. It is often supposed to be the cause of epidemical diseases. A writer in the Genesee Farmer relates an instance of a person frequently eating a large tablespoonful of ergot with impunity.

SUNFLOWER OIL.—From the following article from the American Farmer, it will be seen that the sunflower oil is destined to become of much importance:

It has been tried, and found to answer effectually all the purposes to which linseed is usually applied. In paint it is superior to linseed, drying much sooner, and imparting a gloss to the paint not attainable from linseed.

The *expression* of the oil is effected by the same machinery, and the same process used for expressing linseed oil; but the seed must first be passed through other machinery for the purpose of *hulling it*. Charles A. Burnitz, Esq., of York, Pa., invented a machine a few years ago for hulling the seed, and has it now in operation at his oil mill in the precincts of that village. By the aid of that machine he obtains double the quantity of oil from the seed, and renders it of a quality very superior to that formerly obtained from sunflower seed. A complete machine will cost about three hundred dollars, including the patent right. Mr. Barnitz will sell rights, and give all information on the subject to those who address him for the purpose.

From twenty to seventy-five bushels of seed may be produced from an acre, according to the quality of the soil—the average on good ground adapted to corn is fifty bushels. A bushel of the seed yields one gallon of oil, by Mr. Barnitz's machinery and process, three quarts cold pressed, and one quart hot pressed.

Good corn land is adapted to the growth of the sunflower, and in proportion to its produce of corn will be its yield of sunflower seed. The mode of culture is the same as that of corn.

We have no doubt that the cultivation of the sunflower would prove profitable to the agriculturist. An acre of ground will yield more sunflower seed than corn, with the same labor and expense; a bushel of sunflower seed is worth more than a bushel of corn. But (for there is a *but* in all new things) the improved machinery for expressing the oil must first be erected and accessible to the farmer, for there is yet no market for the seed in the cities as there is for corn and flaxseed.

The oil cake is an excellent article of horse-feed, and for this purpose will nearly pay the expense of expressing the oil; consequently, the farmer will get nearly a gallon of oil for every bushel of seed, when mills shall be erected for the purpose; but if he erects machinery, and crushes his own seed, the oil cake will more than pay for the labor and the interest on the cost of the machinery; he will then of course have a gallon of oil for every bushel of seed. Sunflower oil, for all the purposes to which linseed oil is applied, is worth at least as much as linseed—it is worth at least a dollar a gallon. But inasmuch as it may be applied to other purposes, it is much more valuable than the latter. As a substitute for olive oil, for table use, it has no equal. For three years past we have used it on our table exclusively, and prefer it to the best sweet oil. It is also equal to sweet oil for all medical purposes. For lamps also it is excellent; fully equal to sperm oil, except that the lamps require trimming more frequently. It has the advantage, as lamp oil, of not being offensive, no disagreeable odor arising from its burning. Therefore, sunflower oil may not only be substituted for linseed oil, but for sperm and olive; and by aid of the proper machinery, it can be produced for half the cost of either.

OBITUARY.—RICHARD K. MEADE, ESQ.—This gentleman was distinguished for his attention to sheep husbandry. He was a valuable correspondent to the American Farmer, from which we take the following notice:

Died, at Lucky-hit Farm, Frederick county, (Va.) on Tuesday the 26th ult., RICHARD KIDDER MEADE, in the 50th year of his age. On the morning of the 26th our friend was in the enjoyment of his usual health. At 12 o'clock he repaired to the meeting house, at the White Post, and with a fervor of zeal peculiar to himself, was prepared to take an active part in the proceedings of a temperance society, which he himself had been greatly instrumental in forming a few months previous, and to the success of which he seemed determined to devote the energies of his mind and body. The society being organized, the President read some very beautiful and appropriate extracts from the addresses of Judge Cranch and others, selected for the occasion by our departed friend; he held in his hand a paper containing many valuable resolutions, which he himself had drawn up, and which he intended to offer with suitable remarks; but, appalling to relate! when his brother, Bishop Meade, inquired for his resolutions, he turned upon him a countenance and features shockingly marred by *paralysis*. Medical aid was immediately obtained, and he was carried home. A partial paralysis was then succeeded by apoplexy, and a few minutes before five o'clock he expired.

Improvements in Grist-Mills are of much importance to farmers. Good mills raise the reputation of flour in the districts where they are located, and consequently enable the grain grower to realize better prices for his produce. We take pleasure in recommending the following to the attention of those who are interested in cereal grains:

Fig. 1.

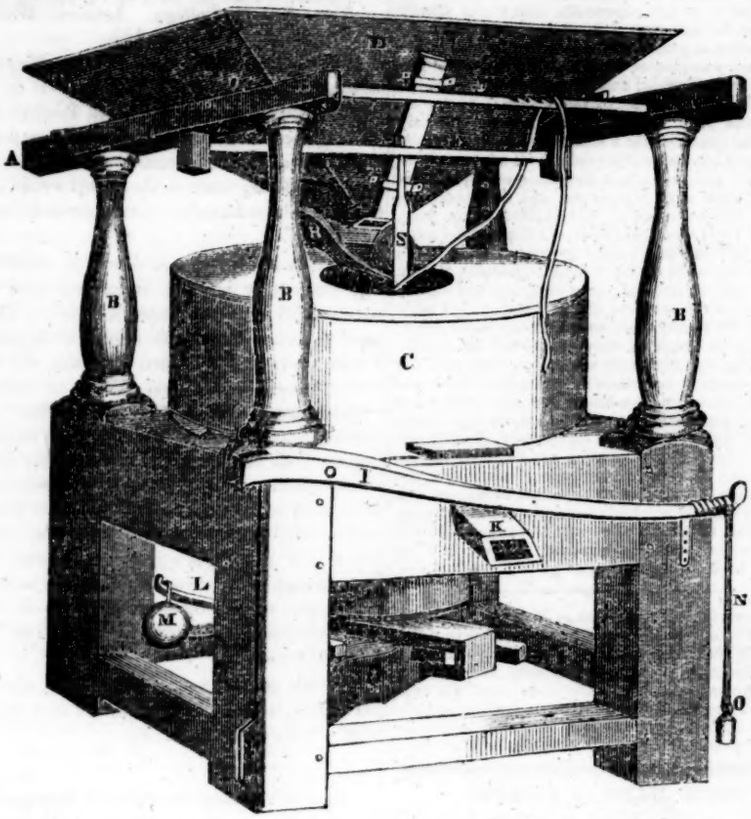
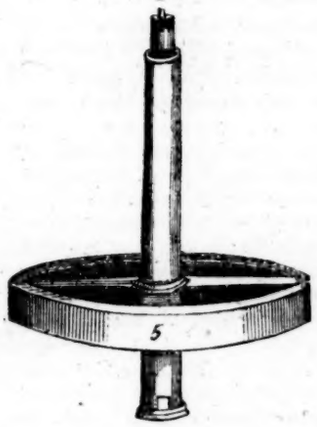


Fig.

Fig. 3.

Fig. 4.



Mr. Hotchkiss' Patent Grist Mill. Communicated by the Inventor, for the Mechanics' Magazine and Register of Inventions and Improvements.

WINDSOR, Broome county, New-York, March 7, 1833.

SIR,—I herewith send you a drawing and description of my improved Grist Mill.

REFERENCES.—Fig. 1. A, the ladder, or top of the hopper frame; B, husk posts; C, hoop enclosing the stone; D, hopper; E, cross-bar, that receives the top of the damsel; F, do. over which the strap crosses that supports the shoe; G, the pressure lever, that gives weight or gravity to the runner; H, the shoe; I, lighter staff; K, meal spout; L, pressure lever; M, weight on the pressure lever; N, strap on the lighter staff; O, weight on said strap; P, rod, or sword piece, that connects the lighter staff and bridge-tree; S, the damsel.

Fig. 2. The top represents the screw part of the spindle; 2, balance rind and wings of flights; 3, driver, and do. do. (see also Fig. 3); 4, collar to spindle; 5, pully on lower end of spindle; 6, screws, or staples, to hold binding irons; 7, inside of oil-pot; 8, binding irons, two of which and foot of spindle form the lock joint; 9, tram block, which is fast to the bridge-tree.

Fig. 3. Driver, and balance rind and wings of flights (see also Fig. 2.)

Fig. 4. The propelling wheel.

The principal objects to be effected by my improvement are to perform fast grinding with small stones, without heating the flour; thereby lessening the expense in erecting the mill, and requiring less power to drive it.

Also to improve mills now in use, by placing the hereinafter described cylinder and flights in the eye of the runner, to keep the stones cool and to make the flour better.

The frame on which the stones, &c. are placed, is made by framing together four posts, one at each corner, and eight girts, four of which to be of sufficient width to receive and support the beams bearing the stones and the flooring around the bed stone. One of the lower girts is of sufficient size to receive an end of the bridge-tree inserted in a mortise in the same; the other end resting on the centre of the brake moving on a joint inside of the opposite girt.

On the middle of the bridge-tree rests a key or tram block, in which is secured the oil-pot or box. In the centre of the oil-box turns the foot or lower point of the spindle. The spindle is made of iron and steel, with a flange or circular projection near the lower end. An iron lock-joint made in two parts encircles the spindle immediately above the flange or projection, and is screwed to the tram block, which secures the foot or point of the spindle in the oil-box and prevents its escaping or bounding out therefrom. The spindle, as high as the collar, and square part on which is placed the driver, is made in the usual manner. The shoulders of the spindle above the driver are to be rounded off in a semi-globular form, on which rests the balance-rind and runner; the balance-rind, where it rests on the semi-globular shoulder, being of a semi-spherical concave shape, its upper side is convex; on which, and around the spindle, is put a circular washer or catteral concave on its under side, resting on the balance-rind. Above this is put a nut, screwed on the spindle, the threads of which being cut in a contrary direction from the turning of the stone, the catteral may be secured by a key passing through the spindle; or it may be otherwise fastened. The spindle is connected and suspended from the runner; the latter being nicely balanced on the spindle, having a motion similar to a ship's compass, and, whilst running, constantly forming itself to the bed-stone in the nicest manner. The damsel is screwed, or otherwise fastened, to the upper end of the spindle.

A pully whirl, drum or cog-wheel, is placed on the spindle to drive the same. A weight is added to the spindle in order to give greater power or gravity to the runner when required, which may, therefore, be of smaller size, and will move with greater velocity; thereby lessening the expense and power required in constructing and driving the mill.

The driver and balance-rind are curved or twisted in such a manner as to answer the purpose of flights or wings, which, during the operation of the mill, carry round and force the air which is in the eye of the runner between it and the bed-stone along deep channels cut in the runner—or pipes inserted to distribute the air—and out of the circumference thereof: also through grooves cut on the periphery of a hollow cylinder inserted in the eye of the runner, creating a current of air through these grooves, and a draft or suction through the eye, causing a more free, easy, and quick admission of the grain between the stones.

Mills that grind fast are liable to heat the flour, and consequently injure it,—but the currents of air, created as before described, and driven between the stones, prevent this from taking place.

To the brake may be attached a screw or lighter staff in the usual way, to raise or sink the runner at pleasure. Also, near one end of the brake, and on it are placed weights and springs, or a fulcrum supporting a lever, attached to one of the corner posts of the frame by a bolt passing through one of its ends, and having a weight suspended near the other end, in the manner of a steelyard, by which the gravity or power of the runner may be increased or diminished at pleasure, so that an equilibrium is formed between the power required and power applied.

The hoop, hopper-frame, hopper, and shoe, are made in the usual manner.

What I claim as my invention, and for which

I obtained letters patent, is increasing the gravity of the runner by means of weight attached to the spindle, or by means of the flange near the bottom of the spindle and the lock-joint fastened to the tram-block on the bridge-tree, with the lever and weight acting on the same; the spindle passing through the balance-rind, secured to and suspended from the runner; the inserting wings or flights in the eye; the shape of the driver and balance-rind causing currents of air to pass between the stones in pipes or otherwise, and through grooves on the circumference of a hollow cylinder placed within the eye of the runner, carrying off the dirt and keeping the stones from heating, likewise causing a draft through the eye, which allows the grain to pass more freely to the grinding stones.

The mills are portable, and can be attached to any machinery, horse, steam, or water, with about two horse power, and are constructed on such a principle as to perform fast grinding with small stones, without heating the flour, and thereby greatly lessening the expense in erecting mills, and requiring much less power to grind them. The improvement can also be applied to mills now in use of the common construction. I am, Sir, yours, &c.

GIDEON HOTCHKISS.

[We are much obliged by Mr. Hotchkiss' communication: it is from such sources that we look with confidence for much valuable matter to enrich our columns. Mr. Hotchkiss possesses certificates of the utility of his invention from upwards of seventy practical men, including many millers and millwrights, who have witnessed the operation.—ED. M. M.]

NATURAL WONDERS.—It is very surprising that two of the greatest natural curiosities in the world are within the United States, and yet scarcely known to the best informed of geographers and naturalists. The one is a beautiful water-fall in Franklin county, Georgia; the other a stupendous precipice in Pendleton district, South Carolina: they are both faintly mentioned in the late edition of Morse's Geography; but not as they merit. The Tuccoa falls are much higher than the falls of Niagara. The column of water is propelled beautifully over a perpendicular rock, and when the stream is full it passes down without being broken. All the prismatic effect seen at Niagara illustrates the spray of Tuccoa. The Table Mountain in Pendleton district, South Carolina, is an awful precipice of 900 feet. Many persons reside within five, seven, or ten miles of this grand spectacle, who have never had curiosity or taste enough to visit it. It is now, however, occasionally visited by curious travellers, and sometimes men of science. Very few persons who have once cast a glimpse in the almost boundless abyss can again exercise sufficient fortitude to approach the margin of the chasm. Almost every one, in looking over, involuntarily falls to the ground, senseless, nerveless, and helpless; and would inevitably be precipitated and dashed to atoms, were it not for measures of caution and security, that have always been deemed indispensable to a safe indulgence of the curiosity of the visitor or spectator. Every one, on proceeding to the spot whence it is usual to gaze over the wonderful deep, has, in his imagination, a limitation, graduated by a reference to instances with which his eye has been familiar. But in a moment, eternity, as it were, is presented to his astonished senses; and he is instantly overwhelmed. His system is no longer subject to his volition or his reason, and he falls like a mass of pure water. He then revives, and in a wild delirium surveys a scene which, for a while, he is unable to define by description or imitation.

How strange is it that the Tuccoa Falls and Table Mountain are not more familiar to Americans! Either of them would distinguish an empire or state in Europe.

Oxalis Crenata, a Rival to the Potato.—This plant has been recently introduced into this country from Chili; and it is not improbable that it may shortly command the attention of the agriculturist as a rival to the common potato. In April last, a small tuber of the root was planted by Mrs. Hirst, of Great Ropers, Warley, Suffolk, and the roots were taken out of the ground on the 5th of this month. As the habits of the plant were very little known, this lady placed the tuber first in a small pot, and afterwards in the open ground of the garden. It appears, however, that this precaution was unnecessary, as the herbage grew very vigorously, and the leaves remained, and were but slightly injured by the frost, until the roots were examined. Although the tuber planted did not weigh half an ounce, the produce weighed upwards of four pounds. Besides the family at Sopers, several other botanists had visited and watched the progress of this Oxalis; and when a few of the tubers were boiled, all the party admitted, that, as much as they resembled the potato, their flavor was decidedly superior. This result is very promising; and when it is recollected that our common potato (solanum tuberosum,) also from South America, was confined to gardens more than a century, its tubers being small and watery, we may reasonably expect that cultivation can do much for the new plant. The stems were numerous, large, and diffuse; the flowers, which appeared in August, yellow, and slightly notched; hence the epithet *crenata*. At present, the tubers somewhat resemble small kidney potatoes, inclining, however, to grow in an aggregate form.—[English paper.]

An ewe in the possession of Mr. King, of Marsh Green Farm, Isle of Wight, has yeaned alive a double lamb, possessing eight legs, two complete bodies which become united at the breasts, and although there are two back-bones the neck is of the usual form. The head has two distinct mouths in opposite directions, four ears, and only two eyes, one in the middle of each forehead.—[Hampshire Chronicle.]

NEW PUBLICATIONS.

Proceedings of the New-York State Agricultural Society, held at the Capitol, in the City of Albany, on 14th and 15th of February, 1833. Together with the Act of Incorporation, and the Communications read before the Society.

The pamphlet of the proceedings of this Society contains 70 pages, a part of the contents of which we have already given to our readers, and shall continue until we lay the whole before them.

Independent of the great importance attached to the operations of this Society, the communications are in themselves of much practical value. The letter from Le Ray de Chaumont, the former President of the Society, who is now in France, contains many useful suggestions. Dr. Darlington, of Pennsylvania, gives an excellent article on the use of lime. J. Buel, Esq., on manures and Indian corn, is as usual—more than well. John Lowell, Esq., on the construction of a grape house, has furnished information which the present taste for grape culture calls for. On sheep husbandry, Mr. Henry D. Grove has given an important and useful article. Interesting papers from A. Knickerbacker, Esq., and the Hon. Michael Hoffman, on practical husbandry and varieties of the potato, close the proceedings.

We hope the newly chosen officers will spare no exertions to make every farm and the whole resources of the State render a tribute to the influence and usefulness of the Society. Let the future wealth, prosperity, and happiness of the people of New-York, be identified with this State Institution. Let the officers and members keep in mind that they have a great object to accomplish—an object well worthy of years of perseverance.

Alphabet of Botany for the Use of Beginners. By JAMES RENNIE, *M. A., Professor of Zoology, King's College. London, William Orr*, 1833. 18*mo., pp.* 145.

This forms a number of a series of publications on some fifteen or twenty sciences. "If the Library of Useful Knowledge," says Prof. Rennie, "had turned out, as was certainly expected by the public, a series of treatises sufficiently intelligible to ordinary readers, we should never have commenced our Alphabet, though projected many years ago."

Without any exception, this is the most valuable elementary book on botany we have ever read. Within its few pages it embraces all the most important facts in the science of botany, in a style easily comprehended by youth, and illustrated by numerous plates. While he considers "highly useful—nay, quite indispensable,"—the classing and naming of plants to assist in studying the book of nature, still "to consider as genuine science an acquaintance, however extensive, with mere classification, whether that be termed artificial, like that of Linnæus, or natural, like that of Jussieu, is a gross and baneful delusion, though it is a delusion which has long prevailed, and at this moment continues to vitiate the observation, and waste the time, of the most ingenious men."

We are pleased to be able to state, that this little book is about to be improved and immediately stereotyped in this city.

Loudon's London Gardener's Magazine.

The December number of this periodical has just come to hand, having been several months in the Custom-House, packed with Messrs. Thorburn's seeds, which were delayed until the 4th of March, for the benefit of the reduction of duties.

This number, although interesting, contains but few articles which are of sufficient practical importance to transfer to our columns. We shall, therefore, only give the substance of a few paragraphs.

THE CHOLERA.—A pamphlet of 32 pages is noticed, containing letters from thirty Physicians in answer to a committee of the Market-Gardener's Society. The conclusion drawn from the opinion of these medical gentlemen is, "that the impression of fear in the public mind with regard to vegetable diet may be entirely removed, and confidence again restored; as the general use of vegetables, as hitherto, is not only judicious, but highly beneficial and valuable."

HAWKS TO FRIGHTEN BIRDS.—A Hawk confined in a cage and placed in the garden or field is found to be of more service to frighten away birds than other scare-crows, including a sleepy boy.

TOBACCO LIQUID.—It is common to burn coarse tobacco leaves to destroy insects on plants. If the leaves are first soaked in water, and then burned, they answer equally well, and in addition, furnish the liquid which is used for the same purpose.

PEARS GRAFTED ON THORN, 'planted in a good soil, come early into bearing; the fruit is larger than on the common stock, and the quality equally good, at least while the trees continue in a healthy vigorous state.'

Historical and Descriptive Account of British India, from the most Remote Period to the Present Time, with Illustrations of the Zoology, Botany, &c. New-York, J. & J. Harper. 1832.

[Continued from page 67.]

When it is remembered how great a portion of our population is supported, and how greatly our commerce is increased, by the introduction and acclimation of a few exotic plants, an inquiry into the vegetable productions of a country so extensive and so little known as British India cannot be uninteresting. Without mentioning some of our most useful cereal growths, cotton-plant, sugar-cane, and various others, the prospective importance of the mulberry is sufficient to awaken, on this subject, a general interest in the minds of all those who attentively consider the means by which the relative influence, wealth, and happiness of a nation are promoted and secured. It certainly is not a matter of small consideration that the United States can annually, in the course of a very few years, substitute the growth and manufacture of *ten* to *fifteen millions* worth of native silk for the imported article. The inquiry should not be less interesting, from a belief that we have already obtained all that is worth seeking or cultivating. Let us not for one moment, either as individuals or as a nation, entertain views so limited both of the resources of nature and of the progressive and varied improvements of the enlightened portion of our race. It is not assuming too much prophetic wisdom to say, that to succeeding generations it will be of as great importance to foster a spirit of inquiry into the vegetable products of other countries as it is to us, and has been to those who have preceded us. On this subject our author has the following introductory remarks:

Our knowledge of Indian vegetation, although extending itself with a rapidity almost unexampled in the botanical history of any country, is yet extremely limited. Nor can this be a matter for surprise when we call to mind the prodigious extent of our Asiatic possessions, reaching as they do from within six degrees of the equinoctial line to the thirty-fifth degree of northern latitude, with a range of temperature from that of the torrid zone to regions of perpetual snow.

It is extremely difficult to form an estimate of the probable extent of the Indian flora, the vegetation of many parts of the country being entirely unknown, and almost every where very imperfectly explored. In fact, in the remote districts, little more has been done than to follow the courses of rivers. The herbarium in the museum of the East India Company contains about 9600 species, including those known and described by Roxburg in his manuscript catalogue, most of which were at that time new. To this amount remain to be added a considerable number of new species in the collection of Dr. Wight. It is the opinion of the latter gentleman, that when he returns to India he shall be able to collect as many species in the presidency of Madras alone as we possess at present from the whole of our possessions there. Dr. Wallich obtained, from his own personal exertions in the valley of Nepaul, and within an area of about sixty miles in circumference, upwards of 2500 species. Twelve months was the space of time devoted to this labor, and it cannot be supposed that he succeeded in discovering all the vegetable productions of that district. From these and other data, it has been calculated by Dr. Wallich that we are not acquainted, at the present moment, with more than the eighth part of the flora of India; an estimate by no means improbable, but which gives to India itself as many species of plants as we find described in botanical works.

Who can read the above in connection with the following, and not have his ideas of the unexplored vegetable kingdom greatly enlarged?

No country in the world produces so large a number of forest-trees as India; many of them of the highest value for timber, and, unlike our European trees, often distinguished for ample leaves and large and fragrant flowers. Nothing can be more glorious than the appearance of an Indian scene during the period, or soon after the rainy season, when the whole country is replete with fragrance and verdure; when many of the more delicate herbaceous plants which had vanished, or languished under the intolerable heat, put forth their blossoms of every hue with astonishing rapidity, and seem by their wild luxuriance to express their joy and gratitude to the great Author of Nature. An endless variety of shrubs adorn the hedges, which are often formed of some kind of *Euphorbia* or the odoriferous *Pandanus*, while cucurbitaceous plants, and a vast number of bindweeds and other climbers, interlace their flexible branches, overtop the hedges, and decorate even lofty trees with festoons of living drapery. A species of *Trichozanthes* ascends to the tops of the highest trees, and produces a beautiful white flower with a fringed border, but which, expanding only in the night, is rarely seen; while the abundant fruit, nearly as large as a small orange, and of a vivid scarlet-color, is very ornamental. So numerous are climbers of this description, that trees and shrubs are lashed as it were together, and the Indian forests or jungles often rendered impenetrable except to birds and wild animals. Where the silk cotton-tree (*Bombax Ceiba*) and the Decannee-bean (*Butea superba*) abound, the effect which is produced by the crimson blossoms of the one and the scarlet blossoms of the other, has been described as inconceivably splendid.

We shall not detain our readers with the various remarks of our own, which we designed to make, but proceed to make as few and as brief extracts as the interesting and important nature of the subject will permit.

Captain Raper, in his Survey of the Ganges, when speaking of the vegetation at a great elevation, mentions a species of oak, bearing acorns as large as pigeons' eggs, and of the same form—and abundance of hazel and walnut-trees.

Rhododendrons, Andromedas, and Gualtherias have a range from the temperate to the frigid regions. *Rhododendron arboreum*, the most beautiful species of a beautiful genus, rises among the mountains to the height of a tree, with a trunk of above twenty feet, bearing large clusters of vermillion-colored flowers at the ends of the smaller branches. Rose-colored and white varieties were found by Dr. Wallich on the very summit of the mountain Sheopur, in Nepaul, at an elevation of 10,000 feet. Even the strawberry flourishes, and the nearly-allied genus *Potentilla* furnishes among others two most remarkable species, *P. formosa* and *atrosanguinea*, which, for the sake of their fine red flowers, have been transported from the lofty summits of Nepaul to the flower-gardens of Europe.

Even *Magnolia insignis* is a tree of vast size, the trunk being frequently four or five feet in diameter. When in full blossom, it is affirmed by its estimable discoverer to be one of the most magnificent objects ever beheld; the large, fragrant, and beautiful yellowish-white flowers are produced in vast numbers amid the dark-green foliage, and are succeeded by oblong cones of purple capsules, from which the scarlet seeds are suspended by delicate white threads. This noble tree will bear, there is little doubt, the climate of Great Britain; and to try the experiment, at least, is one of the many laudable objects to which Dr. Wallich looks forward on his return to India.

The principal species made use of in the making of paper, is the *Daphne canabina*. It is a very branching shrub, six or eight feet high, with lanceolate shining leaves, and grows in the mountainous parts of Hindostan, from Nepaul to the province of Kemaoon. The flowers are exquisitely fragrant, resembling those of the *D. odora* of our hot-houses. The paper manufactured from the bark is of various dimensions and texture. The finest kind measures ten feet in length by four feet in breadth, and is manufactured chiefly in Dotee, a province to the eastward of Kemaoon. It approaches in softness and size to that which is made in China, and Dr. Wallich thinks it is not improbable that some of the latter may be produced from the same material. The following particulars are extracted by Dr. Wallich from the MSS. of Lieutenant H. R. Murray, forming a part of that gentleman's official correspondence with the Military Board at Calcutta:—"The *Set-Burooa*, or paper-shrub, is found on the most exposed parts of the mountains, and those the most elevated and covered with snow, throughout the province of Kemaoon. In traversing the oak-forests between Bheemtah and Ranghur, and again from Almora to Chumpawut and down towards the river, it has come under the immediate observation of the writer of these communications, that the *Set-Burooa*, or paper-plant, only thrives luxuriantly where the oak grows; so that it is not likely that it will succeed in the plains. It is hardy, and attains a height of five or six feet; blossoming in January and February, and ripening its acrid red fruit about the end of April. The paper prepared from its bark is particularly calculated for cartridges, being strong, tough, not liable to crack or break, however much bent or folded, proof against being moth-eaten, and not in the least subject to dampness from any change in the weather; besides, if drenched or kept in water for any considerable time, it will not rot. It is invariably used all over Kemaoon, and in great request in many parts of the plains, for the purpose of writing *nusubnamees*, or genealogical records, deeds, &c., from its extraordinary durability. It is generally made about one yard square, and of three different qualities. The best sort is retailed at the rate of forty sheets for a current rupee, and wholesale at eighty sheets. The worst sort, however, is of a much smaller size, and retailed at a hundred and forty sheets, and wholesale at a hundred and sixty or seventy for the rupee. The following is the very simple process of manufacturing this paper:—After scraping off the outer surface of the bark, what remains is boiled in fair water with a small quantity of the ashes of the oak,—a most necessary part of the ingredients,—which has the effect of cleaning and whitening the stuff. After the boiling, it is washed, and immediately beat to a pulp with small mallets on a stone; so that, when mixed up in a vat with the fairest water, it has the appearance of flour and water. It is then spread on moulds or frames made of common bamboo-mats."

Some of the finest leguminous timber-trees are perhaps to be found in the genus *Dalbergia*. Roxburg describes *D. latifolia* as one of the largest mountain-trees of the peninsula. The wood is known by the name of *blackwood*, and is of a grayish black with light-colored veins, so heavy as to sink in water, close-grained, and admitting of the highest polish, which renders it highly esteemed for furniture. Dr. Roxburgh mentions having seen planks of it from the Malabar coast full three feet and a half broad; and allowing nine inches of white wood to have been on the outside, the circumference must have been fifteen feet, exclusive of the bark. Equally useful, and possessing the advantage of being one of the quickest growing timber-trees in the world, is *Dalbergia Cissu*. This wood, we are informed by Dr. Wallich, has no rival for purposes where toughness and elasticity are required to be combined. It does not splinter when penetrated or perforated by a cannon-ball. Throughout Hindostan the naves, felloes, and spokes of gun-carriage-wheels are

made of it in preference to any other. In the navy it is chiefly excellent for what are called crooked-timbers. For all these purposes it attains a sufficient size in thirty-five or forty years: this is proved by several trees which were planted in the Botanic Garden at Calcutta in the year 1796, and which have now an elevation of eighty to a hundred feet, and a circumference of fourteen feet.

The next plant that we shall notice in our selection of leguminous species is perhaps one of the most interesting. This is the rice-paper-plant (*Æschynomene paludosa*), the *Shola* of the Bengalese. Rice-paper is prepared, or rather simply cut out of the stem of an herbaceous plant, to which Roxburgh gave the name above mentioned. The portions of the stem which we have seen are several inches in length, and from half an inch to above one inch in diameter, and entirely composed, to the very centre, of a fine white cellular tissue, marked in a transverse section with two or three delicate concentric circles, resembling those in the woody structure of dicotyledonous plants. The Chinese die it of various colors, and employ it chiefly in the manufacture of their artificial flowers. The plant is perennial, of straggling low growth, and seldom exceeds a diameter of two inches and a half in the stem. It is brought to the Calcutta bazaars in great quantities in a green state; and the thickest stems are cut into laminæ, from which the natives form artificial flowers and various fancy ornaments to decorate their shrines at Hindoo festivals. The Indians make hats of rice-paper, by cementing together as many leaves as will produce the requisite thickness; in this way any kind of shape may be formed; and when covered with silk or cloth, the hats are strong and inconceivably light. It is an article of great use to fishermen; it forms floats of the best description to their extensive nets. The slender stems of the plant are bundled into fascines about three feet long; and with one of these under his arm does every fisherman go out to his daily occupation.

The mahwah-tree, or Indian butter-tree (*Bassia butyracea*), the oil or illeepei-tree (*Bassia longifolia*), and the shea-tree or butter-tree of Africa, probably also a species of *Bassia*, are among the number. The mahwah-tree is the most remarkable one in India; it is about the size of an English oak, according to Forbes, but with a beautiful large shining foliage. The flowers are produced in full clusters at the ends of the smaller branches, and look exactly like berries; the true fruit, however, resembles a walnut, the olive-shaped seeds of which are replete with a thick oil, which is used as a substitute for ghee. The flowers are equally prized, for when dried in the sun they have been compared to Malaga raisins, both in flavor and appearance. They are eaten, in fact, in various ways—as a preserved fruit, as an ingredient in curries and other dishes, or even in their fresh state. A good tree will produce in one season nearly three hundred weight of flowers. Their greatest consumption, however, is in the distillation of a kind of spirit, which goes by the name of mahwah-arrack, and is so cheap that an English pint may be had for one *pice*, about the value of a halfpenny.

The oil expressed from the fruit of *Bassia longifolia* is constantly used by the common people instead of ghee and cocoanut oil. The flowers are also collected for food, as in the preceding species, and almost every part of the plant put to some use. It is said that owls, squirrels, lizards, dogs, and jackals eat the flowers, and that the latter sometimes become mad by partaking too freely of them.

Urceola elastica, or the elastic gum-vine, is a plant of this order, which yields a viscid milky juice, possessing the properties of caoutchouc. It is an extensive climber, two hundred yards or more in length, winding among the branches of the loftiest trees, and rising above them into the open air. The milk, when exposed to the atmosphere, becomes solid; and by means of it Mr. Howison succeeded in rendering cloth water-proof, and suggested that it might be applied to the making of hats, great-coats, tents, coverings for carriages, &c. The plant grows in Sumatra also, and Dr. Roxburgh believes that the Chinese make their elastic rings from its juice.

The above extracts are sufficient, we trust, to convince our readers that there may probably be many plants of great utility in the arts, that have not as yet been cultivated in any civilized country. Had we in this country three or four botanic gardens, the facilities for the introduction and acclimation of exotic plants would be greatly promoted. With such establishments, in our extensive territory and varied climate, we could not fail of taking precedence of all other nations. Nothing is wanting to obtain these gardens but the attention of those in power drawn to the subject, and they made to feel the importance of it. Here, alas! we are called to experience the sad effects of having extensive literary and scientific education confined almost exclusively to those in the professional walks of life, and not extended to the great body of the agricultural population. Had the farmers been possessed of enlightened views of their calling, and true to their own interest, there would, long ere this, have been splendid establishments of this kind in all the great principal sections of our country. Behold a nation of farmers having a treasury overflowing, and endangering the stability of their government in their contentions about the disposal of a surplus revenue, and yet no thought taken to advance the state of Agriculture!

Report of the Committee on Agriculture, read in the House of Representatives of Pennsylvania, February 2, 1833.

The people of the United States have, through their representatives in the National Legislature, just decided on the provisions of the tariff—a subject effecting their vital interest. It is a question, to what extent this decision was an act of the people themselves, founded on expressed opinions that have been formed from ample data and full information? Did the inhabitants of the State of New-York, for instance, who form about one-tenth of the population of the Union, have all the requisite facts presented to them? Was the weight of their opinion, clearly and fully given, felt throughout the country? Did the agricultural portion of this empire state come forward with a united voice, and declare how their interest had been promoted or injured by the operations of the tariff? Do this great people know to what extent their lands have increased in value, their sheep and cattle multiplied, and their resources of comfort and wealth augmented? A negative answer must be given to all these interrogatives—an answer showing a state of legislation by no means compatible with the light of the age. It is clear to all those who read and think, that our state legislative bodies are more or less political associations subordinate to those party influences that give and control the power of the Federal Government. When the nation was agitated by this engrossing topic, did the Legislature of this State, through the Committees of Agriculture, Commerce, and Manufactures, send for persons and papers, embody all the facts, and send them abroad with their legitimate deductions, as the voice of this great and enlightened people? The answer is, No: and whether the opinion of this State was expressed in subordination to the prospects and influence of party, we leave to those who think and reflect to decide.

While on this subject, we cannot refrain from expressing a hope that the committees which are appointed by our Legislature would be required to report the condition, progress, and prospects of those leading topics that concern the welfare of the people. Such a practice would greatly add to the interest of our legislative sessions, and serve to enable the people to judge and act more understandingly and intelligently on state national affairs.

We request our readers to peruse the following brief extracts from the report of the Committee on Agriculture in the Legislature of Pennsylvania, as a specimen of such facts as should be presented to farmers:

The interests of agriculture are so essential to all others, and of such paramount importance, particularly to this state, that it is difficult to conceive that any system, no matter for what object it was designed, could receive the countenance and support of the people, which should effect injuriously the agricultural interests of the commonwealth. In pursuing the inquiry into the influence now given to domestic manufactures on the agricultural interests of the state, the committee would remark, that the fact of the existence of the present healthful and prosperous condition of the agricultural interests of the state most successfully illustrates the favor. There is no period in the affairs of this state, in which its agriculture was in so great a state of depression, as that which intervened between the peace with England, in 1815, and the period of the creation of a home market, by the encouragement given to domestic manufactures under the protecting system. Occasionally, it is true, the farmer received an exorbitant price for his flour, in consequence of a failure of the crops in England, or some unlooked-for demand in South America; but generally the prices were too low to afford him any remuneration for his toil. He was, during all that period, dependent for the reward of his labor on the precarious casualties of a threatened famine in England, a hurricane in the West Indies, or some political convulsions in Europe, which to him, at the expense of his christian virtues, were indeed "angels' visits, few and far between." The exclusive policy of foreign governments, in favor of their own industry, by which a market was refused to the bread stuffs of our grain-growing states, in time called for and obtained the adoption by our own government of those counteracting measures which were so happily intended to create a market at home for that which was denied a market abroad. The rapidity with which, under the system of protecting the manufactures of the country, a home market was created for the productions of agriculture, and the extent in which it now exists, have exceeded the most sanguine expectations of the friends of the system. The present certainty and regularity of the home demand for the productions of the soil, the steadiness of the prices, the increased ability for their consumption, consequent to the general and profitable employment afforded—these are the fruits of that system which has invigorated the agriculture of this state for a series of years, in the absence of foreign demand: by which the value of the products of the soil, and with it the labor of the farmer and the price of land, have progressively increased, and by which a stability and independence have been imparted to the pursuit of agriculture, which it did not before possess. These effects can be ascribed to no other causes than the increase of the manufacturing classes, and the rapid growth of the home market, under the protective system. There

have been no wars nor threatened famine, of late years, to create a demand for the bread stuffs of the country; but, on the contrary, all the producing nations have been exerting their industry to the utmost, and maintaining a rivalry against this country, which would have visited, particularly the citizens of this state, with the most disastrous consequences, if they had not found a steady and valuable market at home. * * *

What has put in motion that immense mass of industry, which is now so advantageously exerted in all the branches of domestic manufactures and mechanical productions of the city and county of Philadelphia, containing a population of upwards of 200,000 consumers of agricultural productions? What has occupied the various water powers of the adjoining counties with substantial buildings filled with the most valuable machinery of every variety, requiring the assistance of a numerous population, depending for their subsistence on the products of the soil? What has converted, in the space of a very few years, that which was an inconsiderable village, in the extreme west of the State, into a great manufacturing city, containing a population, including the adjoining towns, of 25,000 consumers of the bread-stuffs of this State? What has introduced the production of wool so extensively in the country, requiring immense ranges of land for the pasturage and subsistence of sheep, and diversifying so agreeably the pursuits of agriculture; and which has increased the consumers of agricultural productions in the numerous class of operatives required in the manufacture of woollens? What has multiplied so rapidly the manufactories of iron, and scattered them over almost every county of the commonwealth, affording the most extensive market for the products of the farmer, and bringing the consumer and producer into immediate contact? And what has opened in the New-England States a market for the bread stuffs of the grain-growing States, of greater value than was ever the market of old England—a market for those bread-stuffs equivalent to a million of barrels annually?

To what cause then can these important effects be ascribed, but to the encouragement given to domestic manufactures by the protective system—a system which, by securing the industry of the country from the injurious influence of foreign legislation, has afforded to our enterprise the means of developing the great natural advantages of the country for manufactures; and which has produced the co-operation of the three great departments of industry, by making them subservient to each other, and the mutual instruments of promoting the prosperity of the whole. Political economists say this prosperous state of things has grown up in *spite* of the system of protection. With the certain knowledge that it has grown up *under* the system, the committee think that the consequences involved in the issue are too momentous, to risk an experiment for the mere purpose of solving a problem of political economy; and if, under the system of protecting the industry of the country, the farmer has to pay a higher money price for domestic manufactures, he full well knows that it is better for him to give such a price to the domestic establishment, which takes the productions of his farm in exchange, than to obtain them at a lower rate from foreign establishments that will take scarcely any thing he has to give.

The protection which was afforded by the tariff act of 1824, and particularly by the tariff of 1828, to wool and woollens, has produced results exhibiting the advantage which the encouragement of this branch of manufactures has been to the agriculture of the country, and the immense benefits it will hereafter confer if the system should continue unimpaired. The extent of the demand for the raw material and the manufactured article, the value of it, the comfort of it, and the absolute necessity of it in a community of 13,000,000 of people, combine to make wool and woollens the most extensive manufacture of the country. The extensive ranges of land which the subsistence of sheep require for the production of wool, the agreeable and profitable diversity it introduces in the pursuits of husbandry, and the large amount of the produce of the soil necessary to subsist those employed in the manufacture, render the encouragement of this branch particularly advantageous to the interest of the state, and more particularly as its extension is calculated to create a demand for the unseated lands of this commonwealth. A reference to the documents contained in the proceedings of the convention of manufacturers held at New-York, will exhibit the most satisfactory proofs of the benefits conferred on the agriculture of the country, by the protection afforded to the growth of wool and the manufacture of woollens.

"From data founded on returns, from information received, and from calculations based on that information, that

The probable number of sheep in the United States is 20,000,000, and worth on an average two dollars per head, $40,000,000.

The sheep farms, generally, do not support three sheep to the acre, summer and winter, though the land be pretty good and well managed. Of the 20,000,000 of sheep it is supposed that about 5,000,000 are in the State of New-York, having had 3,496,539 in 1825, the latest returns at hand, and it is known that many of these sheep are fed upon lands worth from 15 to 30 dollars per acre; and in Dutchess county, in which are over 500,000 sheep, the lands on which they are fed are worth $25 per acre. It is then probable that the average worth of farms in the United States, capable of supporting three sheep to every acre, throughout the year, are worth 10 dollars the acre. 20,000,000 of sheep will require 6,666,666 acres—say 6,500,000 acres at 10 dollars, 65,000,000.

Capital in sheep, and land to feed them, $105,000,000.

The 20,000,000 of sheep produce 50,000,000 pounds of wool, annually; the average value of which for three years, 1829, 1830, 1831, exceeded 40 cents per pound or 20,000,000 dollars. [The crop of 1831 was worth more than 25,000,000 dollars.] The crop of wool, having reference to the whole quantity made into cloth of various qualities, is worth 40,000,000 dollars, which is about the gross annual product of wool and its manufactures in the United States. If the woollen goods imported, valued $6,000,000, be added, there will be allowed for each person in the United States, $3,50 worth of woollen goods per annum, including blankets, carpets, &c. as well as clothing.

The fixed and floating capital vested in the woollen manufactories of the United States, such as lands, water rights, buildings, machinery, and stock on hand, and cash employed, may be estimated at $40,000,000,

Capital directly vested in the growth and manufacture of wool, 145,000,000.

The proportion between the amount of wool used in the factories and worked up by household industry, are as three to two; and on the average, it will employ one person to work up 1000 pounds of wool annually, or 50,000 persons in the whole.

It is reasonable to suppose that each laborer subsists two other persons: say 150,000 in all, deriving a direct support from the woollen manufacture, whether household or otherwise.

Each person will consume at least 25 dollars worth of agricultural products annually, or 3,750,000 dollars worth of subsistence.

The average products of farms cultivated for the supply of food does not exceed $2 50 per acre yearly, after subsisting the cultivators and those dependent on them. It will therefore require 1,500,000 acres of land to feed those manufacturers and their dependents—worth say 15 dollars per acre, is 22,500,000.

Capital involved in the growth and manufacture of wool in the United States, $167,500,000.

The annual value created by, or accruing to agriculture, because of the growth and manufacture of wool, may be thus shown:

Wool, $20,000,000.

Provisions to manufacturers, $3,750,000.

Fuel, timber, and other products of the land, supplied, $500,000.

Charges for transportation and food of horses and other animals employed, because of the factories, $500,000.

Total, $24,750,000.

The following should rightfully be added, to show the whole operation of the woollen manufactures in the United States.

For every 100,000 lbs. of wool manufactured, there is a constant employment, equal to the labor of six men, in the erection and repair of buildings, millwrights' and blacksmiths' work, and in the building and repairing of machinery whether for wool worked up in the factories or in families—say 3,000 men, whose labor subsists at least 9,000 other persons, 12,000 in all, and consume each 25 dollars worth of agricultural produce annually, is $300,000.

Making the whole number of persons employed, because of the manufacture of wool, 162,000; and requiring of the product of agriculture, for materials and subsistence, the very large amount, per annum, of 25,550,000 dollars. And it should be observed that there is no foreign market to which we can send our 25,000,000 worth of wool and bread stuffs and meats. It would all be as if annually lost to landholders and cultivators, were the home market destroyed, in abandoning the manufactures in wool; and those who are now consumers of the products of agriculture must, of necessity, become producers, and lessen the price of grain, &c.

This branch of industry may be said to be in its infancy, not being more than ten years old. If sustained by the government, its extension, and the benefits it will confer on the agricultural interests of the country, and on the settlement of the unseated lands of the commonwealth, are incalculable.

In this state, it is believed that the production of wool has progressively increased, under the protection afforded particularly by the tariff act of 1828. In Washington and Greene counties, possessing a soil and range of country particularly adapted to the raising of sheep, the attention of farmers has been extensively directed to the production of wool, and the number of sheep in those counties is represented to exceed 200,000. In other counties of the state, there is a gradual increase of attention to this interesting branch of husbandry. All that is required to make it a staple production of the state, is confidence in the protection of the government necessary to foster and sustain this great and growing interest. There is no state in the Union whose soil and climate are so well adapted to the business, and there is no description of lands presenting more favorable ranges for the rearing of sheep, than the unseated lands of this commonwealth.

For each ton of bar iron and castings made, the following agricultural produce is found to be consumed:

20 bushels wheat and rye, average at 75 cents,		15 00
57 lbs. pork,	5 cents,	2 85
43 lbs. beef	4 do.	1 75
10 lbs. butter,	12½ do.	1 25
2 bushels potatoes,	30 do.	60
½ ton hay,	7 00	3 50
For every ten tons of bar iron one horse is employed one whole year, worth 100 dollars—and experience shows that the mortality among horses so employed, is per annum one in seven, and constitute a charge per ton, of		1 43
For fruit and vegetables, of which no return has been made, we feel justified in putting down,		1 00
		$27 35

Which multiplied by the quantity of bar iron and castings, will give the sum of 3,415,850 dollars, paid by the iron manufacturers, and those employed by them, to the farmers.

MISCELLANEOUS SELECTIONS.

FOOD OF SEAMEN—PRESERVATION OF FOOD.

[For the following article we are indebted to the Journal of Health. The subject concerns the farmer.—Ed.]

The question relative to the best and most convenient aliment for the nourishment of the crews of vessels, is one evidently of very great importance to every commercial community. It has consequently received from many of the maritime powers of Europe a very great deal of attention. From none more so than from that of France; to the experiments performed at its suggestion, on the most extensive scale, and under the superintendence of men adapted, as well from their scientific acquirements, as by their habits of close observation, to obtain from them correct results, we are indebted for many valuable facts on the subject of aliment generally.

The latest publication in connection with this question, is that of M. Keraudren. The following extracts from this memoir, will, we are persuaded, be, in many points of view, interesting to most of our readers.

To enable an individual, remarks the author, continually to undergo toilsome labor, and confront new dangers, courage is not alone sufficient—his body must likewise be healthy and robust. When man becomes feeble in body, he loses his energy and his boldness. Sufficient and proper food is especially necessary to the maintenance and developement of his physical strength. The mariner, especially, therefore, requires a proper nourishment; for we all know what are his fatigues, and by how many perils he is constantly surrounded. When we consider that at sea his diet is composed principally of salted meat and leguminous seeds, in a dry state, we perceive how important it is that these substances should, at least, be of a good quality. To secure this has long been an object of solicitude. In 1771, M. Poissonnier Desperrieres, adjunct inspector of marine hospitals, proposed to restrict the diet at sea principally to vegetable substances. This gentleman attributing the origin of putrid diseases to the use of animal food, and considering scurvy a necessary consequence of living on salted meats, believed that by a diet chiefly vegetable these diseases would be prevented or rendered less malignant. His object would have been better attained had he, in place of dried leguminous seeds, been enabled to furnish the marine daily with fresh vegetables during their residence at sea. The effect of the diet proposed by M. Desperrieres upon the health of the national seamen was ascertained by experiment. The frigate *Belle Poule* was provisioned accordingly, and after a five months' voyage returned to Brest, without her crew having experienced any disease, but with bodies exhibiting the most evident marks of emaciation and debility. Thus confirming a truth long known, that animal food is, in general, necessary to the due maintenance of bodily vigor in man.

Some years subsequently this subject was submitted to the examination of the Royal Society of Medicine; and we find in the Volume of its Transactions for the years 1784 and 1785, a report in reply to the questions proposed by Marshal de Castries, minister of marine, relative to the nourishment of the crews of vessels. The authors of the report compared the mode of victualling the English and Dutch vessels of war. The English furnished theirs almost exclusively with salted meat, while the ordinary nourishment on board those of the Dutch was found to be dry vegetable substances. It is added that the crews of the English were most subject to scurvy, and that the disease caused among them greater ravages than among those of the former. They conclude that the substances which constitute the most healthy part of the nourishment employed by man, are the farinaceous, and hence it is the dry legumina that should form the principal part of the diet of seamen. In general, they conceive that flesh is only a useful addition to this diet, as it aids the digestion and animalization of vegetable food. It is very probable that scurvy was found to be most frequent and severe on board the English than on board the Dutch ships; but it is not so certain that the difference in their diet was the cause of this. We have repeatedly seen the crews of vessels enter into port after long voyages, during which they have not been affected with scurvy, notwithstanding they had habitually eaten salted provision. But if the gentlemen who drew up the report referred to, had attributed the production of scurvy to salted meat badly preserved, or of an unwholesome quality, then should we have coincided in opinion with them. The dry leguminous seeds by which they propose to replace the salted food of seamen, are themselves objectionable. They are viscous and of difficult digestion; this is especially true of the dry beans so largely used at sea: while their hard skin defends them from the attack of insects, it prevents likewise the action upon them of the stomach. They possess no anti-scorbutic property. In preventing this disease they act negatively by taking the place of salted meats of a bad quality. Besides, when we consider the small quantity of nourishment contained in vegetable substances convenient for the victualling of ships, especially in their dry state, when a great part of their mucilage is lost, and by undergoing a species of fermentation, their fecula, which is the part upon which their nourishment depends, is altered or destroyed, we shall see how little preference is to be accorded them over salted meats of a good quality, for the aliment of men subjected to the toils of a marine life. The observations of the officers and physicians of the navy were nevertheless the cause of some useful changes in the diet of the seamen. The heads and feet of the animals were rejected, as susceptible, when salted, of a rapid decomposition. Fish was likewise left out from the food of seamen, from its unwholesome properties and the disagreeable and injurious odour which it exhales in the vessels; and finally, the proportion of salted beef was diminished, and that of pork, the superiority of which had been tested, was increased. The manner of preparing these salted meats underwent, however, no change; a circumstance nevertheless exerting no little influence upon the vigor and health of those who partake of them.

"I had," remarks our author, "frequently observed, that beef when dried and hardened by salt, was deprived entirely of its nutritive properties. The flesh of pork, less solid, was therefore generally preferred; I, accordingly, with the consent of all, found fault with the bad choice made of the cattle slaughtered for the use of our ships." On examining into the manner of salting the meat, he discovered that a large amount of common salt was used, but no saltpetre, and a pretended anti-scorbutic mixture was added to each barrel of meat composed of alum, gum-tragacanth, and madder, which latter accelerated an unwholesome change in the meat, and gave it a filthy and disgusting appearance. In consequence M. Keraudren obtained an official order directing the use of less salt, the addition of nitre, which besides preserving the meat gives it a pleasing vermillion tint, and the disuse of the anti-scurbotic mixture, in the preparation of the meat for the supply of the French navy.

The use, he remarks, of meat properly salted is not so unwholesome as has been supposed—it is not alone the cause of scurvy. Nevertheless, the means of preserving meat without the use of salt will be an important discovery. To this end the Society of Encouragement have proposed a prize; for which several essays have been offered. Appert suggested to partially cook the food whether vegetable or animal, and to put it afterwards in vases perfectly closed, and to be then immersed in water the heat of which is to be raised to the boiling point. In these vases, however, the substances were found to undergo more or less change; and the plan is altogether incapable of being applied to the victualling of a ship or squadron. It affords, notwithstanding, an admirable means of preserving food for the sick, and in the French navy has been adopted for that purpose. Meat suspended in a current of air, dries without putrifying—but in European climates, when conducted as it must be in chambers or magazines, it acquires always a disagreeable flavor. When meat is exposed to a free current of air, the watery juices, which in its recent state cause its suppleness and increase its nutritive properties, evaporate, and it becomes dry and solid.—When dried by heat it is the same. Meat thus prepared will not undergo putrefaction so long as it is kept from moisture. In drying, however, the meat, particularly beef, loses in great part its osmazome or that balsamic property to which it owes its taste, and which renders it so much the more digestible and nutritive. Meat when dried to a certain extent is likewise rendered more liable to imbibe the moisture of the atmosphere, and in this manner to become again susceptible of decomposition. If desiccation has been carried too far the animal fibre will not any longer admit the water, and will retain its hardness after boiling, so that it is impossible to cook it. The point to which the drying of the meat should be carried, therefore, is that which will be sufficient to prevent its undergoing any decomposition, while such a degree of hardening is avoided by which all its alimentary properties are destroyed. The hydrochlorate of soda (common salt) is perhaps the best agent by which to produce in meat the proper degree of dryness; that salt absorbing the fluids as they escape from the meat, while at the same time its anti-septic properties are indisputable. The heat of a stove, the action of drying substances, of oil, of vinegar, and of spices are so many means for preserving meat, which can be employed only on small masses, and are not adapted to the preservation of large quantities. It is said that the Indians have recourse simply to the use of sugar for the preservation of animal substances, but in imitating their example the English have employed the sugar only in connection with common salt and salt petre. It is then, after all, by salting alone, that we have it in our power to preserve for any length of time animal food, in a condition which renders it fit for the nourishment of man; and in quantities adapted to the

victualing of an extensive population, of an army or a fleet.

In renouncing all other means of preserving animal food, however, it is not impossible to correct the acrid nature, and to augment the wholesome properties of salted provisions. By its admixture with vegetable substances, salted flesh becomes more fresh and less stimulating; and the dried vegetables being penetrated by the juice of the meat, become more succulent and nutritious.

In February, 1823, M. Keraudren made a report to a commission of which admiral Jacob was president, on this subject, in consequence of which, not only was the union of the dry leguminous vegetables with salted meat in the same ration directed to be observed in the navy, but every morning the men are furnished with a warm breakfast, adapted to the particular climate under which they are at the time. An arrangement the effects of which have proved of the most pleasing character.

Cultivation of Corn.—Our readers will find the following communication to repay perusal. It is such a detail of effects as we should be happy to receive frequently from farmers. It was communicated to the New-England Farmer.

Princeton, N. J., Jan. 28, 1833.

Mr. Editor,—The idea has often occurred to me, while perusing your valuable paper, that farmers might be mutually benefited by making public through its columns their mode of cultivating the various crops which they grow upon their farms. Under that impression I have taken up my pen with the intention of devoting an evening in giving you my views and practice in cultivating a crop of Indian corn. Our soil, principally a sandy loam, in some places inclining a little to gravel with a clay subsoil, is well adapted to the growth of that plant, and we consider it the most profitable crop we cultivate. In the first place we prefer a stiff herds-grass sward, (by you called red-top, or herd-grass,) and clover; and, experience has taught us that a field which has been pastured for two or three years is much more certain of producing a good crop of corn than one of the same quality which has been kept up and mowed for hay the same length of time; that it is so with us, does not admit of a doubt. We suppose it is owing in part to there being fewer insects in the pasture-land,—the droppings of the cattle adding more recent animal manure to the soil, and some suppose that the soil having been rendered more compact by the cattle trampling on it for two or three successive years, facilitates the growth of the young plant by enabling it to push forth its roots more readily, as a certain degree of compactness in the soil appears to be necessary to enable a young plant to send forth its roots with facility. After trying various modes of preparing my land and tending the crop, I have for the last two or three years adopted the following, which appears to me to be the best I have yet practised.

I plough my land in the spring as early as convenient, regulating the depth by the depth of the soil, after ploughing put on a roller drawn by one yoke of oxen and roll lengthwise the furrow, after rolling, harrow twice along the furrow, with a heavy harrow six feet wide with iron teeth well sharpened, drawn by two able horses. Then take a small plough, drawn either by one or two horses, and form the field in ridges, by throwing two furrows together four and a half feet distant from each other across the original furrows, being careful the plough does not reach the sward to turn it up: this cannot be *well done* without the ground has been previously rolled. I then furrow crosswise the ridges last formed, with a sled made for the purpose of two inch plank with three runners, each runner having a hole an inch in diameter bored in the bottom, about equi-distant from either end, and a peg of good hard wood driven therein to extend about one and one-half inches below the runner, the part extending below the runner to be twice the diameter of that inserted in it. With this machine, with a tongue or pole firmly attached to the middle runner, one man with two horses can with ease furrow more than twenty acres per day;—as he makes three furrows at once, he must, consequently, furrow as fast as three men with ploughs, and it leaves the furrow in a fine state to drop the corn on, the grain not being so liable to scatter and roll as when dropped on the hard furrow made by a plough. The ground is then prepared for planting squares four and a half feet by four feet, and at this distance we put four grains or kernels in each hill. We find a small quantity of ashes on or in the hill of considerable advantage; it causes the young plant to come up strong and vigorous. When the corn has been up a few days, we put a small quantity of plaster to each hill, and commence harrowing with a small harrow three and a half feet wide, drawn by one horse, twice through each row one way, which prepares the ground handsomely for ploughing, and by which a careful hand can loosen the soil close to each hill. In a very few days after the harrowing is completed we commence ploughing, by throwing a furrow from each row, ploughing as close to the corn as can be done without covering it up, leaving the middle or spaces between the furrows in that direction untouched; we then commence ploughing crosswise, throwing the furrow to the corn unless it should be quite grassy, when we throw it from the corn as before, and in either case plough the middle or spaces left between the rows in the direction last ploughed out, immediately, throwing half to each row. After laying in this state some days, we put on the small harrows again and harrow twice through each row, or rather space between the rows one way—in this state it may be left for some days untouched, unless there should be a heavy fall of rain, in which case experience has taught me that it is of decided advantage to the corn to stir the ground again with the harrow, that a free communication may be kept up between the soil and the atmosphere. As it is all important to the health of an individual that the pores of the skin should be kept open, so it appears to me with the soil, that the slight crust formed upon its surface after a rain should be again broken with the harrow or some other implement.

When the ears are beginning to set I commence ploughing for the last time, throwing the furrows to the corn and leaving the spaces between the rows well ploughed out; by this system you will perceive the hoe is in a great measure dispensed with, and I can assure you I can keep my field as clean without it as you would wish to keep your garden, unless the spring should be very wet and warm, when we occasionally find it necessary to use the hoe. One man and a horse will plough around (as we call it) five acres of corn in a day, or complete, by ploughing the middle out, two and a half acres. If there should be a considerable fall of rain or heavy showers soon after the last ploughing, I almost invariably put on my small harrows again, unless the crop should be too forward, but at the last harrowing we raise the corner teeth of the harrow (which is of a triangular form) so that near the hills they merely break the surface. When the corn is nearly ripe, and, if possible, before it is killed by the frost, we cut it up by the ground and set it in stacks to be husked at leisure; the stalks are hauled and stacked at the barn-yard to be food through the winter months.

I have said nothing on the subject of applying manure to the crop, having already extended this communication to a much greater length than I intended when I commenced, and I fear it will occupy more space in your columns than it merits, but I leave it with you to publish the whole or any part thereof that you may consider calculated to promote the cause of agriculture. A. C.

To make Bread, Rusk and Apple Dumplings.—Now let us tell them how to make good wheat bread. Always measure your water and salt, that is a rule not to be omitted with impunity. A pint of water will make a moderate sized loaf. Say you want to make four loaves. In cold weather take a quart of water as warm as you can bear your hand in, and make a stiff batter over night, say at bed time, put in the yeast, and let it stand to rise till morning, when it will have risen and began to sink in the middle, if not, keep it warm till it does. This is called "setting spunge." In the morning, take another quart of warm water, put into it a small handful of fine salt, pour it into the "spunge," and make the dough, working it well till it becomes perfectly free and silky. Let the dough rise till it becomes quite light. Now begin to heat your oven; mould the dough into loaves immediately, and let them stand till your oven is hot, when you will put them in and bake them one hour. In warm weather the water should be milk warm for the "spunge," and the "chill" merely taken off for the dough. Bread made in this way will be as light as any baker's bread, and yet preserve all the sweetness of home-made bread.

To make fine rusk, take some of the dough made as above for bread, after you have made your loaves; put in some butter and sugar, with such spices as you prefer; work it well, set it aside to rise, when very light mould the rusk, put them in pans, set them aside to rise again, and when light bake them,. No better rusk than these were ever made by the bakers. Milk is not good for any kind of bread or rusk, for the little butter that is in it is more easily supplied by working butter itself into the dough, and then you have not the cheesy matter, which injures bread. A small lump of butter or sweet lard worked into the dough is a great improver of bread.

To make apple dumplings, take some of the well raised dough prepared for bread, work in some butter or lard, and put in the apples in the usual way. Dumplings made thus are as wholesome as bread, being very light, and free from clamminess, and of course easily digested; they are much better than when made in the common way. Pie crust made in the same way, but rolled very thin, is far better and more wholesome than the common kind.

[American Farmer.]

Culture of Silk.—From the Report recently submitted to the House by Mr. Wheelock, of Warwick, we learn that this important branch of industry is becoming an object of increased attention, and that successful efforts in raising it have been made in almost every County of the State. The consumption of this article in the United States is believed to amount to no less than $10,000,000 annually; of which Massachusetts alone is believed to consume not less than $300,000. One acre of full grown Mulberry trees, it is calculated, will produce $200 worth of silk—and the committee are further led to believe that a great portion of the labor of producing the article "requires only the efforts of females, children and aged persons, in and about their homes, and that the amount of such in this Commonwealth is very considerable, and that a field is here opened for a species of industry which at present is scarcely available at all, but if slightly encouraged might greatly add to the general mass of productive employment and wealth. Almost every farm in this Commonwealth is capable of being made to produce the leaves of the white mulberry tree, which by a natural process are converted into the rich and durable material of Silk. Every farmer might raise in his family, at least, enough of this article to pay his taxes, without materially interfering with the requisite labors of the farm, or diminishing the usual amount of other agricultural productions." If each farmer in this State would devote a little attention to the raising of the mulberry tree, and allow his daughters to raise the silkworms, the profits to the State in a few years would amount in the aggregate to many hundred thousand dollars. Millions of dollars worth of raw silk are imported into France and England every year. The Committee recommend a bounty of one dollar on every pound of Silk reeled in this Commonwealth, that is capable of being manufactured into various silk fabrics; also, a bounty of one dollar a hundred on white mulberry trees, transplanted in a proper manner for the growth of the leaf. The art of reeling from the cocoons is rather difficult and discouraging at first; so that without some public aid few will be found to undertake it. To obviate this difficulty the proposed bounty is recommended.—[Boston Traveller.]

Potatoes.—In the month of June, 1832, I planted in my garden, on the same kind of soil, prepared in the same manner, and side by side, three kinds of potatoe seed, (all of which were Foxites.) The first kind was whole potatoes of good size, which yielded respectably both as to size and numbers. The second kind was the parings, which our good wives generally assume the right of taking off in the summer season; from this kind of seed I received larger but fewer potatoes than from the first. The third kind of seed consisted of the sprouts or chits, broken from the potatoe when about six inches long, of which I used about five or six to each hill, (a greater number would, I think, have been better.) From this last kind I dug potatoes nearly as large again as from either of the others. The number was as great as from the second kind. I have this day weighed twelve of the largest, and found the weight of the twelve to be eleven pounds and ten ounces, which, if I mistake not, is a greater size than the Foxite commonly attains.

I believe that I had as great a quantity from a hill or given space of the last as from the first kind of seed.

Very respectfully, &c. W. P. W.

Milton, Jan. 10, 1833.

[Genese Farmer.]

Transparent Soap.—Tallow is the basis of all soaps for the toilette known under the name of Windsor; because olive oil forms a paste too difficult to melt, and has an odour too powerful for mixing with perfumes. Tallow soap, dissolved in alcohol, returns to its solid state on cooling. It is this fact that has led to the discovery of transparent soap. When well prepared, this soap should have the appearance of fine white sugar candy. It may also be colored, and vegetable colors are for their purpose preferable to mineral. Any person may make the soap, by putting into a thin glass phial half a brick of Windsor soap cut small, filling the phial half full of alcohol, and placing it near the fire till the soap is dissolved. This mixture, put to cool in a mould, gives the transparent soap.—[Edinburgh Journal of Science.]

Singular Customs.—There is a custom proper to Sicily, which I must not forget to mention. This is a right of purchase of a singular kind. If any man buy an estate, be it house, land, vineyard, the neighbor of the purchaser, for the space of an entire year afterward, may eject him by an advance of price. In vain would the first purchaser give more to the original owner. This singular law is generally evaded by a falsehood. The purchase money is stated, in the articles of agreement, at a higher sum than has been agreed upon in the presence of four witnesses. There is another no less singular law in Sicily, according to which any man can oblige his neighbor to sell his house, if he will pay him three times its value. The intention of this law was the improvement of the towns. It was to encourage the possessors of large houses to purchase the humble abodes of the poor.—[Count Stolbery's Travels.]

Cultivation of Corn, &c. near Paris, Tennessee.—We are situated near the 36 deg. north latitude; where it crosses the Tennessee river, our land is, generally speaking, undulating—not so level, but bad cultivation permits the land to wash in many places. Our produce is corn, cotton, tobacco, potatoes, oats, wheat and rye, &c. &c. Forty bushels of corn per acre, I suppose, is the average crop; some think they make fifty or sixty—though I do not. The corn is planted from March to 15th June, at four to four and a half feet from hill to hill, and from two to four stalks left in the hill; the plough is used almost entirely; and but little hoeing done to it—never more than two given, and more often, none. There is no manure used for corn, or, indeed, any thing but our gardens. We usually strip the blades from the stalks as soon as the shuck on the corn begins to whiten, or as soon as it is hard enough; the stalks are tied up with the blades, and stacked around a pole twelve or eighteen feet high in single or double rows. When dry enough, the corn is gathered and hauled to the crib, the shucks taken off and put in the crib;—the shucks, by most, are put in a pen to feed the stock—by others, they are permitted to rot on ground.

The wheat is sown among the corn or cotton, from the 15th October to the 15th November. The early wheat does best with us; it is subject to rust, fly, &c.; fifteen to thirty bushels is a common crop.

Rye and oats grow as fine here as in any country I ever saw. Rye sometimes grows as high as eight feet, oats as high as six; rye is very common at six to seven, oats at five; they are remarkably heavy, though I cannot say how many bushels, as we usually cut them up without threshing them out, and feed them to stock.

Our horses and cattle are miserably abused; many have a rail-pen for their horse to stand in, and none have shelters for their cattle. The best stables are made of logpens, without any thing in the crevices to exclude the cold and rain. We have many diseases, consequently, among us; the most common among the horses are the big head, the big jaw and shoulders, swinney, spavin, blind-staggers, and glanders, &c.

I have said enough, and fear your patience will be exhausted before you get through it. —[Southern Agriculturist.]

Growth of the Western States.—All the ideas I had previously formed of the immense influence to be exerted, at no distant day, over the moral and political interests of America, by the western states, and especially by Ohio, were more than sustained by personal observation. It was winter when I looked upon the agriculture and improvements, and capacity of improvement existing in Ohio. Every thing presented its most unfavorable aspect. The labor of the husbandman had been withdrawn from the fields. The tide of emigrants had been arrested by the season. But no such cause could hide the inexhaustible abundance of the most useful minerals, or the immense fertility of lands capable of producing all varieties of provision for the use of man. No intelligent observer can behold the mineral and agricultural riches of that country—the facilities afforded for all kinds of internal improvement: the great improvements in the way of roads and canals which have already been made, and those now in contemplation, and which must, whatever the temporary suspension, *must* force themselves to completion; the active, intelligent, and enterprising character of the million of people already inhabiting that state; the rapid increase which the population is continually receiving from all parts of the civilized world; the evident ability of the state to support an immense burden of inhabitants, and the causes operating more and more in the countries of Europe to send over to the United States, and especially to the West, an increasing succession of emigration, without being convinced, not only that Ohio is capable of sustaining, but that in a few years she must possess a very great amount of population. The influence of this state upon the whole of the north-west, not to speak of other regions, must be prodigious.—[Bishop McIlvaine.]

Misconstruction of Wheel-Carriages pointed out.—It is the practice to make the hind wheels of waggons, and most other four wheeled carriages, the highest; but the advantage of so doing is not clear to me, and, from the following experiments, it seems to be erroneous: Most people, too, concerned in the loading of waggons, have an idea that they are drawn more easily if loaded heaviest before, that is, on the fore-wheels. Having long since embraced a different opinion, I re-

solved to put it to the test of experiment. I made a small model of a waggon, in size a twenty-fourth part of the size of those used by farmers in general, and weighing 10 oz. This I placed on an horizontal board, 3 feet long, which had a small (pulley) wheel at one end, over which run a thin cord, one end of which was fastened to the fore-part of the waggon, while from the other end there was suspended a small scale to contain weights, which of its own weight would just move the waggon along the board when unloaded.

The first trial was with four wheels of 2 inches, and hind ones of 3 inches diameter. The fore part of the carriage was then loaded with 33 oz. and the hind-wheels with 16 oz. To move this along the board took 5 oz. in the scale. When the loading was reversed, that is, 16 before and 32 behind, it was drawn by 4 oz. It was next loaded with 32 oz. on each pair of wheels, and was then drawn by 6 ounces.

The fore-wheels were next placed in two hollows sunk in the board three-eighths of an inch deep, loaded as in the first trial. The carriage was drawn out by 29 oz.; when the loading was reversed, as in the second case, it was drawn by 21 oz.; when loaded equally, as in the third case, it was drawn by 33 oz.

The hind wheels were then taken off, and their places supplied by a pair of equal diameters with the fore ones, namely, 2 inches.

Loaded as in the first, second, and third instances, it took to move it along the level nearly the same weights; but when the fore-wheels were placed in the hollows, it took less by 4 oz. each trial; when the loading was reversed, and made equal, the results were as before.

The pulley-end of the board was then elevated to an angle of 33¼ degrees with the horizon, which is nearly equal to that of a hill rising 4 inches in the yard; if loaded as in the first instances, the carriage required to draw it up 13 oz.; loading reversed (as before) 15 oz; equal, 14 oz.; wheels in the hollows, nearly as before.

To the above may be added the very great uneasiness occasioned to the shaft-horse, when either of the fore-wheels meets with any obstruction from stones, &c. and which is evidently increased in proportion to the smallness of the circumference.—E. Vialls.

Poison of Cocculus Indicus.—The berries of the *Menispermum cocculus*, better known for the most part by the name, *cocculus indicus*, are brought from Malabar and the East Indies, and have been used from time immemorial by the natives of those countries, in catching fish, birds, &c. The berries reduced to powder and made into paste, and then into small pills, are thrown into the water, or placed on fences and shrubs, where small fish or birds partake of them and are soon *made drunk*, according to the common expression. When a lad, I often used the article for the purpose of amusement, along the small streams adjacent to my native city. It is poisonous when taken into the human stomach in considerable quantity.

Culture of Silk important to Country Practitioners. By T. D. M. [From the Medical Gazette.]

As the general scope of the Medical Gazette embraces all the important objects of natural history, I know of nothing that is calculated for general utility more deserving of notice than the culture of silk. This subject is one of growing interest, and cannot fail to excite universal attention in these United States. But to no class of the community it is likely to prove more advantageous than to country practitioners, who own a small piece of land, and who have time enough to spare at the proper season to give full attention to the subject. Indeed, the active duties, connected with this culture, require not more than about six weeks in the year, and the whole of that time is embraced in the season in which medical men have but little professional business. I am satisfied that a country practitioner could not possibly appropriate an acre or two of his land, nor six weeks of his leisure time, to so good advantage, in any other project, as in the culture of silk. For one dollar, he may procure all the necessary information relative to this matter in sufficient detail, in a small volume, to be had in all our bookstores, entitled *A Treatise on the origin, progressive improvement, and present state of the Silk Culture.* To give an idea of the profits of this business in a few words, the following remarks of a practical man, who has had great success in this enterprize, in Philadelphia, are here submitted:

"An acre of ground will produce 90,000 lbs. of leaves—which, if sold on the tree, at a half a cent per pound, will produce $450; or if sold, delivered, at one cent, produce $900. This would produce thirty-seven hundred pounds of cocoons, which, at twenty-five cents per pound, (with the moth,) is $925. The same quantity well reeled, produces four hundred and twenty pounds of raw silk, which, at three dollars per pound, the price of the China silk here, makes $1,260: if, however, reeled and fitted for the European market, would produce, at six dollars per pound, $2,500."

We earnestly request our medical brethren, who are wont to complain of bad debts and hard times, to give this subject their serious consideration. The culture of silk must, at no remote period, be introduced extensively in the West, and it cannot fail to be a source of great emolument.

The Parrot.—The following anecdote of Braham's Parrot is curious:

"Parrots, like cuckoos, form their notes deep in the throat, and show great aptitude in imitating the human voice. A most remarkable instance I met with at Mr. Braham's villa at Brompton. A lady, who had great admiration for his talents, presented him with a parrot, on which she had bestowed great pains in teaching it to talk. After dinner, during a pause in the conversation, I was startled by a voice from one corner of the room calling out, in a strong, hearty manner, "Come, Braham, give us a song!" Nothing could exceed the surprise and admiration of the company. The request being repeated and not answered, the parrot struck up the first verse of "God save the King," in a clear, warbling tone, aiming at the style of the singer, and sang it through. The ease with which this bird was taught was equally surprising with the performance. The same lady prepared him to accost Catilini when dining with Mr. Braham, which so alarmed Catalini, that she nearly fell from her chair. Upon his commencing "Rule Britannia," in a loud and intrepid tone, the chantress fell on her knees before the bird, expressing, in terms of delight, her admiration of his talents.

"This parrot has only been exceeded by Lord Kelley's, who, upon being asked to sing, replied,—"I never sing on a Sunday."—'Never mind that, Poll, come, give us a song.'—"No, excuse me, I've got a cold—don't you hear how hoarse I am?"—This extraordinary creature performed the three verses entire of "God save the King," words and music, without hesitation, from the beginning to the end."

Procuring Two Crops of the Ash-leaved Kidney Potato, in One Year, off the same Ground.—In each of the last two years I have grown two crops of the ash-leaved kidney potato on the same ground, and each of the crops has been a good one. I proceed thus: In taking up the first crop, I bury the tops or herbage in the trench, by turning the earth between the rows upon them, and this done, the ground is ready to be planted again. My first crop this year was planted on the 30th of March, and my second on the 13th of July; the second has been as good as the first, and the potatoes are perfectly ripened: the joint produce of the two crops has been fully at the rate of 960 bushels an acre. I took some of the potatoes of the second crop, of nearly the full size, to market on September the 15th.—[Loudon's Magazine.]

Political Economy.—The following estimates from the Family Lyceum are worthy of general attention; they would furnish our legislators with more available data than many of the pages of Adam Smith.

"The interest of the money expended in erecting a prison at Philadelphia is sufficient to pay the tuition of 10,000 children at infant schools.

"The expenses of the militia of Massachusetts is not less than half a million annually, which is more than sufficient to establish a Lyceum Seminary, or self-supporting school, in every county in the state, at 30,000 dollars each. The one expenditure designed to enable men to kill and devour each other; the other designed to aid each other in every good work.

"In Ohio, and the other western states, those towns which, at their commencement, from twelve to fifteen years ago, established schools and public worship, are now accommodated and ornamented with good roads, comfortable dwellings, framed, two stories, and painted, with commodious barns, productive orchards, safe enclosures, and above all, with intelligent, moral, and refined society; while those which have been settled from 20 to 30 years, and have neglected schools and churches, have few buildings but log houses, with one room, no roads but such as nature furnishes, no orchards, no barns, and little cultivated land except a few acres around their cabins sufficient to raise corn for their bread; and they are even unable to find time to comb their children's heads or wash their faces.

"Throughout New-England, those towns whose citizens have erected for their schools commodious houses have been able also to erect for themselves neat or elegant dwellings. While those which are unable to build school-houses, are also unable to erect dwellings, except plain, unpainted, one story buildings. Where they are able to erect churches at an expense of five or seven thousand dollars, they are able to ride in chaises, worth $250, while those who have the poorest churches ride to them in waggons, on horseback, or go on foot."

Proceedings of the New-York State Agricultural Society, at the first anniversary, on the 14th and 15th February, 1833, at Albany.

In a former number of the Farmer, we gave the report of a committee on an Agricultural School. The first of the following resolutions refers to that report.

Ordered, That 300 copies of the foregoing report and resolution be printed for the use of the members of the Society.

Resolved, That Ambrose Spencer, Horatio Hickock, and Jesse Buel, be a committee to prepare and report a memorial to the Legislature, in conformity with the preceding resolution.

Resolved, That Messrs. Beeckman, Le Ray, and Webster, be a committee to report the order of proceedings to be observed in the future meetings of the Society.

Resolved, That Messrs. Lynch, Walsh, Hungerford, Russell, and Beeckman, be a committee to nominate suitable persons for officers of the Society for the current year.

Mr. Vincent Le Ray de Chaumont requested the committee, in the name of his father, President of the Society, in consequence of his prolonged absence, not to consider him a candidate.

Mr. Buel informed the committee that he had received a letter from the Hon. Edward P. Livingston, one of the Vice Presidents of the Society, declining a re-election, on the ground of his not being a practical agriculturist.

The Hon. Ambrose Spencer, having also ceased to be a practical agriculturist, declined being considered a candidate for any office.

The Society then adjourned to 4 o'clock tomorrow afternoon.

February 15, 1833.

The Society met pursuant to adjournment.

The minutes of yesterday having been read and approved,

Dr. Lewis C. Beck, agreeable to request, delivered before the Society a very lucid and interesting address on the benefits of science, and particularly of botany to agriculture, and describing some of the most valuable products of our forests.

On motion of Mr. Beeckman, of Columbia,

Resolved, That the thanks of the Society be presented to Dr. Lewis C. Beck, for his very interesting and instructing address, and that a copy be requested for publication.

[We regret much that Dr. Beck has declined furnishing, at the present, a copy of his address for publication.]

The Corresponding Secretary made the following report:

The Corresponding Secretary reports—That in pursuance of the resolution of the Society, he procured last spring twelve pounds of seed of the white mulberry, which he divided into parcels, and forwarded to the general committee in the several counties, with printed directions for managing the seeds and plants; and that he has had returns from six or eight counties, in relation to the same, which all concur in giving satisfactory results, and of the parcels having produced from 2,000 to 2,500 plants each. Upon this data, if the Society's efforts have been properly seconded, there are now growing in the State about half a million of mulberry plants, through its exertions. The benefits likely to accrue from this first expenditure, cannot but prove an incentive to further exertions;

That he sent a circular, of which a copy will be found in the proceedings of our first meeting, to the several members of the general committee;

That William Jay, Esq., of Westchester, gave an early assurance of his desire to co-operate in our useful labors, and enclosed five dollars as a donation to our funds;

That Benjamin W. Ross, Esq., of Essex, manifested a like desire, and also enclosed five dollars;

That F. C. Delavan, Esq., of Seneca, writes, that from the ounce of seed sent to him, five thousand mulberry plants have been reared, of which 2,500 were raised by the Rev. Thomas Lounsbery, all of which are in healthy condition. Mr. Delavan gave also an earnest of his good wishes, by enclosing five dollars;

That among the communications from foreign correspondents, is a very valuable one from Dr. William Darlington, of Westchester, Pa., on the use of lime in agriculture; and a letter from Major John Adlum, of Georgetown, district of Columbia, accompanied by a copy of his treatise on the culture of the vine, and on the manufacture of wine, and a dozen bottles of wine of his vintage of 1831, presented to the Society;

That communications on practical husbandry have been received from several members of the general committee; and

That no official communications have been received from county societies, except that of Jefferson, although it is understood that societies have been organized in Oswego, Monroe, Onondaga, Saratoga, Essex, and Clinton. It is also understood that societies are about being organized in Albany, Columbia, New-York, &c.

Mr. Beeckman presented the following report, which was accepted:

The committee who were appointed by a resolution of the society, to report the order in which business shall be conducted in its future meetings, report:

That the order of business, after the organization of the society by the presiding officer, shall be—

1. To call the names of the members;
2. Receive credentials of delegates from county societies;
3. Admission of new members;
4. Minutes of the preceding meeting to be read and approved;
5. Standing and other committees to report;
6. Treasurer to make his annual report;
7. Communications received by the Secretary to be made to the society;
8. Communications of members to be received;
9. Resolutions to be offered, and general business of the society to be transacted;
10. President to deliver his address;
11. Officers to be chosen.

The Treasurer's Report.

The Treasurer respectfully reports—That during the year past, he has received the following sums:

From three life members, $50 each,		$ 150 00
From three members,	5 "	15 00
From two members,	3 "	6 00
From 102 members,	1 "	102 00
	Total,	$273 00

That his disbursements have been as follows:

For 12 pounds of the seed of the white mulberry,	$ 26 00
For printing 300 circular letters—250 directions for planting the mulberry seed—and 1,000 copies of the transactions of the Society, and for stationary,	113 00
Total,	$139 00

And that there remains a balance in his hands of $ 134 00

Respectfully submitted,

Charles R. Webster, *Treas'r.*

Albany, Feb. 14, 1833.

On motion of Mr. Beeckman, of Columbia,

Resolved, That for the purpose of giving interest to the annual meetings of this society, its Corresponding and Recording Secretaries be requested to provide for the delivery of lectures and addresses on subjects of general interest to the agriculture of the State.

Mr. V. Le Ray de Chaumont, of Jefferson, from the committee on the subject of fairs, read the following report and resolution, which were adopted by the society:

New-York State Agricultural Society, *Albany, February* 14, 1833.

The committee appointed at the first meeting of the society, to report "on the practicability and utility of establishing annual fairs, for the purchase and sale of live stock, seeds, and other products of husbandry, and of household labor," respectfully report:

They have found much difficulty in obtaining information on a subject entirely new in this State. The differences in agricultural and commercial habits and circumstances in Europe and in this country, render the experience of those parts on this subject of little avail to us, and there is but scanty information to be gained here in relation to it. After a diligent and personal inquiry in the Middle and Northern States, your committee cannot learn that any thing of the kind is in existence, except in Massachusetts. They have attempted it there, in connection with their county agricultural societies, but it does not succeed as well as would be desirable. A large fair for the sale of cattle and other animals is held weekly at Brighton, near Boston, and is very extensive and flourishing; but it has a mixed character, which, while it promotes its utility, renders it different from such fairs as we contemplate, at least, for the interior of the State.—There, the butchers come from a large district of country, and meet not only farmers, but a greater number of drovers, and a middle class of people who act as agents or commissioners for the farmers.

In examining the subject in itself and as applied to our State, your committee can hardly believe that if fairs for the sale of live stock, &c. were properly organized in different parts of the State, they could fail of being both beneficial to farmers and purchasers; and nothing is wanting to insure this success but a general concurrence of both those classes. We would then see the results produced upon those branches of industry which attend others in large markets. The farmers, better informed of the prices, would not be exposed, on the one hand to be deceived by speculators—nor, on the other, to keeping his produce in consequence of erroneous information. The purchaser would be able to make up in a short time the amount of purchases which it would have taken weeks to assemble, and could at the same time give to farmers prices augmented by competition, and by the saving of expense attending this way of procuring his supplies.

If, however, this concourse of sellers and purchasers was only partial, the great object of these fairs would not be attained, and a subsequent discouragement would probably retard, if not prevent, their ultimate success.

Your committee therefore do not feel warranted in recommending at present the establishment of these fairs upon the extensive plan which they are confident would be very beneficial, if it could be fully carried into operation. They have considered that much of the live stock in this State, and to the west, passes through Albany on its way to Boston, New-York, and the neighborhood of those cities. The concentration of a part of this stock, at least once a year, at a proper time and place, could add nothing to the expense of taking them to market, and would offer great advantages to sellers and purchasers. They believe that a fair held in Albany, and one in New-York, would give the opportunity of testing the merit of these institutions, and mature data upon which to establish others. The different county societies which have been organized during the past year, will then examine the subject for themselves; and these fairs being introduced by degrees, and as the wants and feelings of the people call for them, will, it is hoped, spread generally and successfully throughout the State.

Your committee therefore beg leave to introduce the following resolution:

Resolved, That a fair for the sale of live stock, seeds, and other products of husbandry and of household labor, be held in the city of Albany, on the second Thursday of October next, and one in the city of New-York, on the fourth Thursday of the same month: and that the civil authorities and agricultural societies of those places be requested to make preparations for the holding of those fairs.

On motion of Mr. Hickock, of Rensselaer,

Resolved, That the thanks of the society be presented to Dr. Wm. Darlington, of Pennsylvania, for his able and lucid communication on the use of lime in agriculture.

Resolved, That the Corresponding Secretary tender to Major John Adlum, of Georgetown,

the expression of our thanks for the book and box which he has sent to the society.

Resolved, That the Corresponding Secretary address a circular to the presidents of the several county agricultural and horticultural societies already organized, or which may be organized the present year, requesting them to transmit to this society, at its annual meeting, an account of their several proceedings, with their views of the means best adapted to improve our husbandry and to diffuse useful knowledge among those who manage its labors.

Resolved, That 500 copies of the proceedings of this meeting be printed in a pamphlet, and that the corresponding secretary include in it such communications as he may have received, and shall deem worthy of publication.

On motion of Mr. Lynch, of New-York,

Resolved, That this society entertains a lively sense of the zeal and usefulness manifested by LE RAY DE CHAUMONT, (late president of the society,) in promoting the interests of agriculture in this State; and regret that he has declined a re-election to the office of president, on account of a visit to Europe.

Resolved, as a testimony of respect, that LE RAY DE CHAUMONT be and he is hereby elected an honorary member of this society.

Mr. Lynch, from the committee appointed to recommend suitable persons for officers of the society for the current year, made a report:

Whereupon the following persons were duly elected to the offices annexed to their respective names, viz.

JESSE BUEL, of Albany, *President.*
GERRIT WENDELL, of Washington,
WILLIAM JAY, of Westchester,
VINCENT LE RAY DE CHAUMONT, of Jefferson,
HENRY W. DELAVAN, of Saratoga,
Vice Presidents.
JOHN F. BACON, of Albany, *Recording Sec'y.*
Dr. J. P. BEEKMAN, of Columbia, *Cor. Sec'y.*
CHARLES R. WEBSTER, of Albany, *Treasurer.*
JOHN TOWNSEND, of Albany,
ALEXR. WALSH, of Rensselaer,
HORATIO HICKOCK, of do.
Additional members of the *Ex. Committee.*

The following gentlemen were appointed a general committee, viz.

Albany—William N. Sill, Rufus Watson, D. B. Slingerland.
Allegany—Philip Church.
Broome—Virgil Whitney.
Cattaraugus—Staley N. Clark.
Cayuga—Joseph L. Richardson, E. Manchester, James Wood, Nathaniel Garrow.
Chautauque—Squire White, J. Mullet.
Chenango—Thomson Mead, Uri Tracy, John Latham.
Clinton—Josiah Fisk.
Columbia—John P. Beekman, William B. Ludlow, William H. Wilson.
Cortland—Samuel G. Hathaway, Jesse Ives.
Delaware—Jabez Bostwick, M. Keeler.
Dutchess—David Hosack, Wm. Davis, James Grant, Isaac R. Adriance.
Erie—Peter B. Porter.
Essex—Henry H. Ross.
Franklin—Luther Bradish.
Genesee—Martin O. Coe, Shubal Dunham, Horace Healey.
Greene—Anthony I. Van Bergen, John Adams.
Herkimer—Wm. C. Crain, Frederick P. Bellinger, Daniel C. Henderson.
Jefferson—Noadiah Hubbard, Edmund Kirby, Egbert Ten Eyck.
Kings—Joseph Canselyea.
Lewis—Isaac W. Bostwick.
Livingston—James S. Wadsworth, Charles H. Carroll.
Madison—Matthew Pratt, Joseph Bruce, Sylvester Bueler.
Monroe—Isaac Moore, Wm. Garbut, James Sperry.
Montgomery—Stephen Reynolds, Archibald M'Intyre, Samuel Jackson.
New-York—S. Fleet, Dr. J. R. Rhinelander, Wm. Wilson, Jacobus Dyckman, Thomas Hogg, Abraham Bell, Charles Oakley, Gideon Lee, Alpheus Sherman, Wm. Shaw, James B. Murray.
Niagara—Benjamin Barton.
Oneida—George Brayton, Eli Savage, Gardner Avery, Israel Stoddard, Ephraim Perkins.
Onondaga—David Monro, John C. Brown, James Geddes, Dan Bradley.
Ontario—Robert C. Nicholas, Thaddeus Chapin, M. Fairchild.
Orange—George D. Wickham, Jacob S. Waldron, Samuel S. Seward.
Orleans—Abraham Cantine.
Oswego—William M. Cheever.
Otsego—Abm. Roseboom, John Russell, Pascall Franchot, I. Hays.
Putnam—
Queens—John A. King.
Rensselaer—Richard P. Hart, William Aikens, Abm. Knickerbacker, Henry D. Groove.
Richmond—Richard Crocheron.
Rockland—Cornelius I. Blauvelt.
St. Lawrence—William Bacon, Theodosus O. Fowler.
Saratoga—Earl Stimson, Philip I. Schuyler, John A. Steele.
Schenectady—Wm. A. S. North.
Schoharie—William C. Bouck, William Deitz.
Seneca—Tompkins Delavan, E. Woodworth.
Steuben—Andrew P. Dickinson, William Kerman.
Suffolk—Selah B. Strong, Nicoll Floyd.
Sullivan—William Gillespie.
Tioga—David Williams, Caleb Baker.
Tompkins—Nicoll Halsey, C. H. Monell, Benj. Jennings.
Ulster—Levi Hasbrouck, Jacobus Hardenbergh.
Warren—William M'Donald.
Washington—John M'Donald, Alexander Livingston, Thos. N. Clark.
Wayne—George Barrell, Myron Holley.
Westchester—Wm. Jay, Peter V. B. Livingston, Philemon Halsted.
Yates—Thomas I. Nevins.

On motion of Mr. Viele, of Rensselaer,

Resolved, That the thanks of the society be presented to the Hon. Ambrose Spencer, for the faithful manner in which he has presided over its deliberations.

The society then adjourned, to meet again at the time designated in the constitution.

A. SPENCER, President, p. t.
J. BUEL, Sec'ry, p. t.

(To be continued.)

HUMILITY AND PERSEVERANCE—A FABLE.—From the side of a mountain there flowed forth a little rivulet. Its voice was scarcely heard among the rustling of the leaves and grass around, and its shallow and narrow stream might be overlooked by the traveller. This brook, although small, was inspired with a proud spirit, and murmured against the decree of Providence which placed it in a lot so lowly.

"I wish I were a cloud, to roll all day through the heavens, painted so beautifully as those lovely shapes are colored, and never descending again in showers; or at least I wish I was a river, performing some useful duty in the world. Shame on my weak waves and unregarded bubbling! I might as well have never been, as to be puny, insignificant, and useless."

When the brook had thus complained, a beautiful tall flower that bent over its bosom replied:

"Thou art in error, brook. Puny and insignificant thou may'st be; useless thou art not, for I owe half of my beauty, perhaps my life, to thy refreshing waters. The plants adjacent to thee are greener and richer than the others. The Creator has given thee a duty, which, though humble, thou must not neglect. Besides, who knows what may be thy future destiny? Flow on, I beseech thee!"

The brook heard the rebuke, and danced along its way more cheerfully. On and on it went, growing broader and broader. By and by, other rivulets poured their crystal waters into it, and swelled its deepening bosom, in which already began to appear the fairy creatures of the wave, darting about joyfully, and glistening in the sun. As its channel grew wider and wider, and yet other branches came gliding into it, it rolled on in a meandering course through a teeming country, freshening whatever it touched, and giving the whole scene a new character and beauty.

As it moved on now in majesty and pride, the sound of its gently heaving billows formed itself into the following words:

"At the outset of life, however humble we may seem, there may be in store for us great and unexpected opportunities of doing good and of being great. In the hope of these, we should ever pass on without despair or doubt, trusting that perseverance will bring its own reward. How little I dreamed when I first sprang on my course, what purposes I was destined to fulfil! What happy beings were to owe their bliss to me! What lofty trees, what velvet meadows, what golden harvests were to hail my career! Let not the meek and lowly despair—Heaven will supply them with noble inducements to virtue."

COMMERCE OF CINCINNATI.—During the past five years there have arrived at the public wharf in Cincinnati 6,852 steamboats laden with produce, their aggregate burthen being 766,513 tons. During the year 1833, there were landed there, among other merchandize, the following, with the annexed estimated value:—97,578 bbls. flour, at $4 25 per bbl. $414,656; 40,425 do. whiskey, at $9, $363,825; 19,758 pork, at $10, $197,580; 30,960 kegs lard, at $2 74 per keg, 85,140; 1,156 bbls. do. at 15 per bbl. $17,340; 1,877,240 lbs. bacon, 4 1-2 cts. per lb. $84,475; 53,539 do. butter, 9 cts. do. $4,818; 99 bbls. linseed oil, $35 per bbl. $3,465.—Total value, $1,171,299.

[From the Vermont Farmer.]

TO CURE WOUNDS ON HORSES AND CATTLE.—As there are many useful receipts hidden from the public for the sake of speculation in a small way, by many who would be thought something of in the world, I am induced to lay before the public a receipt for making *King of Oil*, so called, which perhaps excels any other for the cure of wounds on horses or cattle, and which has long been kept by a few only in the dark. Feeling a desire to contribute to the good of the public, but more especially to the Farmers of Genesee, I send you the following very valuable receipt for publication:—1 ounce of green copperas, 2 ounces of white vitriol, 2 ounces of common salt, 2 ounces of linseed oil, 8 ounces of West India molasses. Boil over a slow fire fifteen minutes in a pint of urine; when almost cold, add one ounce of oil of vitriol; and four ounces of spirits of turpentine. Apply it to the wound with a quill or feather, which will immediately set the sore to running, and perform a perfect cure. Yours respectfully,

STEPHEN PALMER.

ENCOURAGEMENT TO PERSONS OF MATURE AGE TO CULTIVATE THEIR MIND.—Instances have frequently occurred of individuals, in whom the power of imagination has at an advanced period of life been found susceptible of culture to a wonderful degree. In such men what an accession is gained to their most refined pleasures! What enchantments are added to their most ordinary perceptions! The mind awakening, as if from a trance to a new existence, becomes habituated to the most interesting aspects of life and of nature; the intellectual eye is "purged of its film;" and things, the most familiar and unnoticed, disclose charms invisible before. The same objects and events, which were lately beheld with indifference, occupy now all the powers and capacities of the soul; the contrast between the present and the past serving only to enhance and endear so unlooked-for an acquisition. What Gray has so finely said of *the pleasures of vicissitude*, conveys but a faint image of what is experienced by the man who, after having lost in vulgar occupations and vulgar amusements his earliest and most precious years, is thus introduced at last to a new heaven and a new earth;

"The meanest flowret of the vale,
The simplest note that swells the gale,
The common sun, the air, the skies,
To him are op'ning Paradise."

On the Management and Pruning of Orchard Trees. By C. HARRISON, Esq. [From the Library of Agricultural and Horticultural Knowledge.]

An orchard in miniature as proposed by a correspondent in the Gardener's Magazine, may, where space is an object, be adopted with advantage.—"By planting the proper sorts apples may be grown *on as small a space of ground as gooseberries:* and a small or large square, according to the size of families, appropriated to apples, will grow every year enough to supply their wants. I am not vain enough to think that I am alone in growing them in this way, as I should think horticultural economy would promote many besides myself to gratify their eyes, their pockets, and their appetites in so easy a way. I have my ground a strong clay mould, trenched two feet deep, in December; as soon as it is settled, say a fortnight after trenching, taking advantage of a frosty morning, the holes are opened and left for the frost to mellow. February is the best month for planting on heavy ground; by that time the earth taken from the holes will be in a fine pulverized state. The holes need not to be very large; two feet over, and one and a half feet deep, will be enough; with some rich soils there will be no occasion for trenching; but then the holes must be larger, say three feet over, and two feet deep; the plants must be six feet apart every way; I arranged mine in quincunx. With a six feet measuring stick this is done with scarcely any trouble. I really do not know any sight more pleasing to a domestic mind (for what fruit contributes more to our comfort than the apple!) than this orchard in miniature, when covered with bloom, and again when laden with fruit, as they seldow miss bearing in abundance.

This plan will not extend to the strong growing sorts, as they are not easily kept within bounds; but the following six will amply repay the trouble and trifling expense of planting. I have placed them in the order of their ripening: Mank's Codlin, Hawthornden, Kerry Pippin, Downton's Pippin, Christie's Pippin, and the Golden Pippin. The trees must be chosen with stems not exceeding one foot six inches in height. In September I look over the trees, take off superfluous wood, and shorten the long shoots; this strengthens the bloom buds, which are formed abundantly upon the young wood of all the sorts named. Of course, in doing this an eye must be had to the formation of the trees, which ought to be gradually brought into a handsome round bush. For the first five years a row of strawberries may be grown between each row of apples, or any other dwarf light crop; but strawberries are most in keeping, a word which, in every gardening operation, ought never to be lost sight of. Let me add—they ought to be worked on Paradise stocks, or the small wild crab, (mine are on the last,) not by any means on the free stock raised from apple pips, the very worst that can be used.

Another correspondent (Mr. Howden we believe) in the 17th number of the very useful and interesting publication above alluded to, thus describes a very ingenious "plan for planting a piece of ground to the greatest advantage." In the winter of 1814–15, on account of some alterations of roads, plantations, &c. a piece of land dropped into my hands, of an awkward shape for tillage, and rather too small for pasture; I therefore concluded to introduce a little spade husbandry; as the house was pretty near to the farm-yard, the intercourse or advantages betwixt them would be reciprocal. Accordingly, having no gardeners, I set farm laborers to make so many ditches, four feet wide and two feet deep, at every twelve yards, clear across the whole; the turf and good soil were thrown on one side, and the bad soil on the other. The laborers wondered what such ditches could mean, as they were as wide at bottom as at top, and particularly when I ordered them to be filled up a foot thick with fresh farm-yard dung: and the turf and what little good soil there was, chopped and thrown on the top of the dung. I had prepared a compost of turf and dung the year before, which was laid upon the whole, about nine inches thick, in which I planted fruit tress in the following order: at every six feet, in the centre of what I now call a border, was planted a standard, then a gooseberry, then a currant, then a dwarf, then a currant, then a gooseberry, then a standard, &c. I was not so particular as some are in my choice of fruit trees. On the edges of the borders I planted rows of strawberry plants, six inches apart, which I have only renewed about twice in ten years; the fruit is always excellent, and supplies a large family all the strawberry season, which saves much garden ground for that crop. The spaces betwixt the borders, I cultivated at my leisure; some were appropriated for nursery ground, some for potatoes, peas, cabbages, &c.; some for experimental agriculture, lucern, mangold wurtzel, &c. The orchard has succeeded beyond my utmost expectations. I had forty-eight apples from two Keswick Codlins the first year, but have never had patience to count them since; last year I had at least seven bushels off the same two trees! Six dwarf Hawthorndens produced above fifteen bushels, and I have, at this moment, two bushels of Wyker Pippins from one graft of my own putting in, only ten years ago. Two Dumelow's seedlings, planted twelve years ago, produced at least eight bnshels of beautiful fruit, scarcely one of them less than ten inches round, and many of them twelve inches. The nonpareils are a very similar crop; as for the Mank's apple, &c. there are generally as many apples as leaves; and when in blossom they seem an entire bunch of flowers.

Upon the beneficial effects of protecting the Stems of Fruit Trees from Frosts in early Spring.—[From the Lon. Mec. Mag.]

Circumstances have led Mr. Knight to believe, that whenever a very large portion of the well-organized blossoms of fruit trees falls off abortively in a moderately favorable season, the cause of the failure may generally be traced to some previous check which the motion and operation of the vital fluid of the tree has sustained. A severe frosty night, or very cold winds, during the barking season, is known to give such a check to the flow of sap in the oak tree as to prevent it from being separated by the peelers till the return of milder weather.

"Neither the health of the tree, nor its foliage, nor its blossoms, appear to sustain any material injury by this sudden suspension of its functions; but the crop of acorns invariably fails. The apple and pear tree appear to be affected to the same extent by similar degrees of cold. Their blossoms, like those of the oak, often unfold perfectly well, and present the most healthy and vigorous character; and their polien sheds freely. Their fruit also appears to set well; but the whole, or nearly the whole, falls off just at the period when its growth ought to commence. Some varieties of the apple and pear are much more capable of bearing unfavorable weather than others, and even the oak trees present, in this respect, some dissimilarity of constitution.

"It is near the earth that frost, in the spring, operates more powerfully, and the unfolding buds of oak and ash trees, which are situated near the ground, are not unfrequently destroyed, whilst those of the more elevated branches escape injury; and hence arises, I think, a probability that some advantages may be derived from protecting the stems or larger branches of fruit trees, as far as practicable, from frost in spring."

In support of this conclusion, Mr. Knight refers to an apple tree, which having had its stem and a part of its larger branches covered with evergreen, had borne a succession of crops of fruit; whilst other trees of the same variety, and growing contiguously in the same soil, but without having had their stems protected, had been wholly unproductive; and to a nectarine tree, which having sprung up from a seed accidentally in a plantation of laurels, had borne, as a standard tree, three successive crops of fruit. The possessor of the nectarine tree, with the intention of promoting its growth and health, cut away the laurel branches which surrounded its stem in the winter of 1823—4, and in the succeeding season not a single fruit was produced.

"Never having known an instance of a standard nectarine tree bearing fruit in a climate so unfavorable, I was led to expect that the variety possessed an extraordinary degree of hardiness; but having inserted some buds of it into bearing branches upon the walls of my garden at Downtown, in the autumn of 1822, I have not any reason to believe that its blossoms are at all more patient of cold than those of other seedling varieties of the nectarine."

A China rose, sheltered by the stem of a plant of Irish ivy, grew and flowered with more than common vigor; and Mr. Knight suggests, that as the ivy, when it has acquired a considerable age, and produced fruit-bearing branches, exhibits an independent form of growth, which the branches retain when detached, if these were intermixed with plants of the more delicate varieties of the Chinese rose, or other low deciduous and somewhat tender flowering shrubs, so that the stems of the latter would be covered in the winter, whilst their foliage would be fully exposed to the light in summer, it is probable that these might be successfully cultivated in situations where they would perish without such protection; and the evergreen foliage of the ivy plants in winter would be generally thought ornamental. Detached fruit-bearing branches of ivy readily emit roots, and the requisite kind of plants would therefore be easily obtained.

As a further experiment with reference to Mr. Knight's reasoning, we could suggest to such as have lately planted an orchard of standard trees to clothe the stems and principal branches of half of them, during the months of March, April, and May, with loose bands of straw, and to observe the effects in comparison with the other half.

Clover Hay for Stock. By AMOS DEAN. [From the Genesee Farmer.]

FRIEND GOODSELL—Believing that most of the subscribers for the Genesee Farmer keep milch cows, and also have their particular modes of feeding them, I wish to state a few facts that have come under observation. Most farmers that I have conversed with on the subject, give a preference to low land hay, with a considerable mixture of red top, for their stock, to clover and timothy. In the course of the past fall and present winter, I have fed my cow on the two different sorts of hay, with a peck of bran, night and morning. While feeding the low land hay, which was cut in season, the quantity of milk per day was four quarts. Having occasion to get a further supply, I purchased a load of the small kind of clover, with a mixture of timothy, cut while in bloom, and well salted. I have fed my cow on this eight days, giving her the same quantity of bran as before, and now get five quarts per day, of an improved quality and flavor.

Rochester, 2 mo. 12, 1833.

NOTE.—The above communication is well worth a careful perusal by every farmer. We have ever contended that timothy was altogether the best grass to cultivate for stock upon lands sufficiently dry to produce it. There will several inquiries spring from the above. Was it the clover which caused the increase? or was it the timothy? or was it in consequence of both having been salted when put up? It is not difficult to combine all these together, if their several valuable qualities are increased.

INFRINGEMENT OF A PATENT RIGHT.—Dr. Nott has obtained a verdict of $850, (which in pursuance of the statute was trebled by the court) against Silvester Parker, for an in-

fringement on his Patent rights for his improvements in stoves for burning anthracite coal.

Blowing Glass.—Among the prizes awarded by the Paris Academy of Sciences, at their last sitting, was the following: "To Israel Robinet, workman, for the substitution of the action of a machine for that of the human lungs, in glass blowing, 8,000 francs. By means of this valuable invention, the health of the glass-blower will, in future, be preserved, and the product of his manufacture greatly improved, both as regards accuracy of form and the capability of making articles of greater dimensions than was formerly possible."

Chinese skinless Oats.—This grain was imported into Holland about four years ago from China, it has been since introduced into Ireland, and was brought from thence by Mr. Gibbons, to Cape Breton. It is said to yield 26 barrels of 296 pounds each, from an Irish acre of ground; and can be used without grinding, but is better made into meal. It is in its nature very hardy, and well adapted to the climate, and one bushel is equal to three of the common kind, for all purposes that oats are used. It should be sown early in May, and will be ripe the latter end of August.

Some of the above grain can be had at Mr. Ed. Warren's, Halifax, N. S.—[Halifax paper.]

Raising Grapes by Eyes or Buds. [From Loudon's Magazine.]—Sir: Langford, some time back, sent me cuttings of his incomparable grape. He stated that he prefers raising it from eyes, which he plants like bulbs; and, with the cuttings, he sent me a few eyes cut ready for planting. I have tried both the cuttings and the eyes; and the eyes have made fine shoots and are in leaf while the cuttings are not. I am, Sir, yours, &c.

M. Saul.

Seed-down of Typha for stuffing Bedding for the Poor. [From Loudon's Magazine.]—When these seeds are ripe, they fall in great wool flocks from the stalk; and as Typha grows wild in many places, they could be procured in abundance. When beaten for some time they separate, and open all their balloons, so as to become as soft and as elastic as feathers; and from their hygrometic expansibility and contractiveness, I apprehend they would never get into clots or lumps if sewed up into a bag or bedtick. I should hope that this hint will be not wholly useless to your *Encyclopædia of Cottage Architecture.*

Retention of Vitality in Frozen Fish and the Leech.—We have the best evidence to prove that fish and some molloscous animals may be frozen, without destroying their vitality. A friend of mine at Camberwell had an inflamed eye during the winter of 1829, and had a leech which was applied to the temple several times: it was kept in water in a phial, and placed on the carpet near the fire-place, in the parlor; the cold at that time was very severe, and every night the leech was frozen, and thawed the following day. Mr. Knight was there at the time, witnessed the fact, and expressed, I am told, no small interest at this curious incident. It was observed by Capt. Franklin, the severe winter they experienced near the Coppermine river, that the fish froze as they were taken out of the nets: in a short time they became a solid mass of ice, and by a blow or two of the hatchet were easily split open; if in the completely frozen state they were thawed before the fire, they recovered their animation. This is a very remarkable instance how completely animation can be suspended in cold-blooded animals.—[Magazine Nat'l History.]

Rheum austriacum was figured some few years back in Sweet's Flower Garden. In consequence of its being strongly recommended in that work, I was induced to get a plant; but having some scruples as to the effect it might produce, if used in tarts, I have abstained from using its leaf stalks until this year. I find it, in point of flavor, very superior to any rhubarb I ever tasted, having a very strong and pleasant acid; scarcely, if at all, inferior to the unripe gooseberry, and producing no unpleasant effects; in fact, in this last respect, I perceive no difference between it and the rhubarb usually grown for tarts. I am therefore desirous, through the medium of your Magazine, to recommend the cultivation of it very strongly to those persons who generally supply the markets; as I have very little doubt it only requires to be known to become in considerable request. Perhaps the greatest obstacle to its being cultivated for general consumption is the lateness of its vegetation, as, with me, it is not fit for use before the second or third week in June; but I have planted it in rather an unfavorable situation, with a northern aspect. Probably, under other circumstances more congenial, it would come forward much earlier. The leaves are uncommonly large; and I find two or three stalks quite sufficient for a moderate sized pudding or tart, although I have taken no particular pains to encourage their growth. I have very little doubt that it is susceptible of great improvement, and that it might be rendered as profitable, at least, as the other sort. Should the merits of this species ever become generally known, I feel assured it will suspend the old sort entirely, as the latter has a flatness in the flavor, which renders it very insipid compared with Rheum austriacum.—[Loudon's Magazine.]

Old Pear Trees.—In the town of Farmington, Connecticut, there grew about a dozen old pear trees, all grafted, as was manifest from the cicatrix around their bodies, and all bearing the same kind of fruit. One of them grew on a lot which, for several generations, belonged to my ancestors. My grandfather, who was born about the year 1700, said that, when he was a boy he used to climb the tree with caution, because the limbs were old. I have known the tree for about fifty years, and it has suffered no material change. The fruit was above the ordinary size—long, bell-shaped, green, very sweet and juicy. I have never seen of the kind any where else, unless taken from one of those old trees, nor have I ever heard any other name than that of the Farmingham Summer Pear. Who was kind enough to graft and plant those trees, tradition cannot tell. The fruit was apt to be knotty and defective, arising from the age of the trees, but I have seen a young tree in the garden of Dr. Norton, of Clinton, Oneida county, which bore fruit smooth and fair.

Mr. Pillans's Vines. [From Loudon's Magazine.]—I see a short notice of our Horticultural Association, in which you refer to Mr. Pillans's mode of cultivating the vine, and express your readiness to communicate it to the public. The fact is, that Mr. Pillans takes an eye from a vine in the month of March; and from it produces, in the following April or May twelvemonth, a handsome plant for his master's table, bearing several bunches of fine ripe fruit. Some of your readers will not credit this; but I have seen it: that is to say, I went through Lord Ducie's forcing-houses in May last, and saw pots of vines with ripe fruit on them. I was informed the eyes had been taken from the parent vines only fourteen or fifteen months previously. I saw others in every intermediate stage of growth between them and the pots in which the eyes had just been inserted; and I understood Mr. Pillans to say that he hoped to produce grapes for the table, in succession, throughout the year, on this plan. I believe that this process has not been communicated to any one. I anticipate your opinion, that all who claim to be citizens in the republic of science are bound to contribute their individual discoveries for the general weal, in exchange for the advantages they reap from a similar devotion on the part of their brother citizens.

Clay Paint for Trees.—A correspondent of the Caledonian Horticultural Society, (Scotland,) recommends *clay paint* for the destruction of insects, and the mildew on fruit trees. The instructions are, that you take a quantity of the most tenacious brown clay that can be obtained; diffuse among it as much soft water as will bring it to the consistence of soft cream or paint; pass it through a fine sieve, so that it may be made perfectly smooth and unctious, and freed from any gritty particles. With a painter's brush dipped in the clay paint, go carefully over the whole tree, not excepting the young shoots. This layer, when it becomes dry, forms a hard crust, which enveloping the insects closely, completely destroys them without doing the smallest injury either to the bark or buds.

Influence of Cottage Gardens in promoting Industry.—It is a fact, the knowledge of which will not be unacceptable to those of our readers who take an interest in plans for bettering the condition of the poor, that, in the village of Blackwood, ripe peaches grown in a cottager's garden have this season been sold at the moderate price of 8*d.* per dozen. I need hardly say that the land producing this fruit was the grower's own, that is, held under a lease for lives. In the year 1817 this spot was a wilderness. The cottager was a rough or out-of-door carpenter, employed to put up posts and rails on a farm, and to do the rough work about a colliery. Before he built his house he lived in a hovel, with his wife and family, without even a garden. Since then, by dint of his industry and good conduct, he has been enabled to build a second and a third house, all of stone, and tiled, and to bring three gardens into cultivation, besides rearing his children decently, and teaching his sons to tread in his steps. He is now an old man, nearly blind, and has been unable to follow his work for more than a year past; but he has a comfortable house to live in; receives the rent of two other houses; has two industrious sons and a daughter, unmarried, to cultivate his garden, which is larger than usual; with its produce in fruit and vegetables of various sorts, honey from his hives, and a pig in the sty to kill at Christmas, to console him under the loss of sight and the infirmities of old age, with the cheering consciousness, that he need be indebted to no parish for relief, and is in no danger of leaving his children beggars.—[Loudon's Magazine.]

On the Strength of Men and Animals. Selected for the American Mechanics' Magazine.

The form and construction of the human body renders it peculiarly applicable as the first mover of machinery, and what it wants in strength is compensated in a great degree by the skill and judgment with which it can be applied. When we consider the great number of cases in which it is preferable to employ the action of men rather than that of inanimate agents, and the still greater number in which it is out of our power to employ any other, it becomes a matter of the highest importance, both to workmen and to those who employ them, to ascertain the way in which the greatest quantity of work can be obtained from their exertions, with the least quantity of bodily fatigue, or with such a quantity of fatigue as they can easily bear from day to day, without injuring their corporeal functions.

Daniel Bernoulli indeed maintained that the degree of fatigue is always proportional to the quantity of action by which it is produced; that, whether he walks or carries a load, or draws, or pushes, or works at a winch, or raises a weight, he will always produce with the same degree of fatigue the same quantity of action, and therefore the same effect; and that the daily labor of a man, whatever be the work to which he is set, may be reckoned at 1,728,000 pounds raised through the height of one foot, or 60 pounds raised through the height of one foot in a second, when his day's labor amounts to eight hours. These opinions were adopted by almost all subsequent authors, on the authority of vague and inconclusive experiments, till the subject received a full investigation from the celebrated Coulomb, Amontons, and others.

According to M. Amontons, a man weighing 133 French pounds ascended 62 French feet by steps in a minute, but was completely exhausted.

A sawyer, according to the same author, made 200 strokes of 18 French inches each with a force of 25 pounds, in 145 seconds.

An ordinary man, according to Desaguliers, can turn a winch with the force of 30 pounds for 10 hours, with a velocity of 2¼ feet per second.

Two men, according to Desaguliers, working at a windlass with handles at right angles to each other, can raise 70 pounds more easily than one man can raise 30, an additional effect of five pounds being produced on the work of each man, in consequence of the uniform action arising from the handles being at right angles to each other.

A man may, according to the same author, exert a force of 80 pounds with a fly, when the motion is pretty quick.

A man may, also, with a good pump, raise a hogshead of water 10 feet high in a minute, and continue the work for a whole day.

According to Dr. Robinson, a feeble old man raised 7 cubic feet of water, = 437½ pounds avoirdupoise, 11½ feet high in a minute, for 8 or 10 hours a day, by walking backwards and forwards on a lever.

A young man, weighing 135 pounds, and carrying 30 pounds, raised 9¼ cubic feet of water, = 578 1/16 avoirdupoise, 11½ feet high for 10 hours a day, without being fatigued.

The strength of men, and of all animals, is most powerful when directed against a resistance that is at rest: when the resistance is overcome, and when the animal is in motion, its force is diminished; lastly, with a certain velocity, the animal can do no work, and can only keep up the motion of its own body.

The effect of animal force, or the quantity of work done in a given time by any working animal, is greatest when the animal moves with one-third of the speed with which it is able only to move itself, and is loaded with four-ninths of the greatest load it is able to put in motion.

According to this estimate, a man who can move 120 pounds, and walk at the rate of 4 miles an hour, when working to the greatest advantage, should carry a load of 54 pounds, and walk at the rate of two feet in a second, or a mile and one-third in an hour.

In raising a weight, a man will produce the greatest effect when his weight is to that of his load as 4 to 3 nearly.

When a horse's work is estimated by the load he draws in a cart or waggon, a great reduction must be made, in order to compare the force he exerts with that which is necessary for raising a weight, by drawing it over a pulley. Though accurate experiments on the friction of wheel carriages are wanting, we probably shall not err much in supposing the friction, on a road, and with a carriage of the ordinary construction, to amount to a twelfth part of the load. If, then, a horse draws a ton in a cart, which a strong horse will continue to do for several hours together, we must suppose his action the same as if he raised up the twelfth part of a ton, (2240 pounds,) or 186 pounds perpendicularly against the force of gravity. To raise a weight of 186 pounds, therefore, at the rate of two miles, or two miles and a half an hour, (that is, 2·9, or 3·6 feet per second,) may be taken as the average work of a strong draught horse in good condition.

On this subject, however, many more experiments are wanting: to determine, for instance, the friction of wheel carriages; the difference of the exertion required to walk on a horizontal plane, and on one of a given declivity; the quantity of work done in a given time by the same animal, carrying different loads. The difference between the effective exertion of a man's strength when he moves along with his load, and when he stands, as in turning a wheel; or sits, as in rowing a boat, &c.

Improved Method of Aquatinta Engraving. By Mechanicus. To the Editor of the Mechanics' Magazine and Register of Inventions and Improvements.

Sir,—If the following short account of the method of effecting aquatinta engraving is thought worthy of a place in your valuable publication, it is at your service.

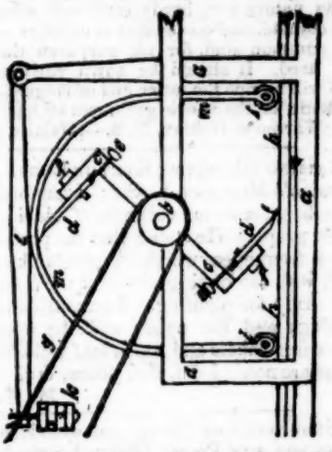
After the intended figure is outlined, by etching or otherwise, the plate is covered all over with a ground of rosin, Burgundy pitch, or mastic, dissolved in rectified spirits of wine; this is done by holding the plate in an inclined position, and pouring the above composition over it. The spirit of wine almost immediately evaporates, and leaves the resineus substance in a granulated state, equally dissolved over every part. The granulations thus produced, if examined through a magnifying-glass, will be found extremely regular and beautiful. When the particles are extremely minute, and near to each other, the impression from the plate appears to the naked eye exactly like a wash of Indian ink; but when they are larger, the granulations appear more distinct. This powder or granulation, is called the aquatinta grain. The plate is next heated to make the powder adhere; and in those parts where a very strong shade is wanted, it is scraped away; but where strong lights are wanted, a varnish is applied. The aqua fortis, properly diluted with water, is then put on with a piece of wax, as in common etching or engraving; and by repeated applications of this process, scraping where darker shades are required, and covering the light parts with varnish, the final effect is produced.

Engraving by aquatinta was invented by Le Prince, a French artist, by whom the process was long kept secret. It is even said that for some time he sold his prints, (which are still reckoned excellent specimens,) for drawings.

ENGLISH PATENT.

Patent to M. Muir, *Engineer, for improvements in machinery for preparing Boards for Flooring, and other purposes. Granted December* 22, 1831.

In the third volume of the present series of the "Register," page 65, we have described a machine, by this patentee, for performing at once the several operations of sawing, planing, grooving, and tonguing flooring boards, and his present patent is for an addition to the same, by which the boards are reduced to a uniform thickness, and therefore completed for laying on the joists. For this purpose the boards are laid upon their faces, or planed sides, and made to pass under a set of revolving adze cutters, by which they are reduced to uniform thickness. The annexed is a sketch of the revolving adzes, where *a a a* show a cast iron frame, with a pulley, or trigger, for giving motion to the cutters *d d*, which are connected with a horizontal axis by means of the rectangular arms *c c*; *e e* are adjusting screws, to regulate the depth of cut; and *f f* are binding screws, for securing the cutters when adjusted. *g b* show a band by which the motion of the steam engine, or other first mover, is transmitted to the revolving cutters. *h h* show the board to be acted upon, and *i i* are two rollers resting upon the board, and by means of the weight *k*, the lever *l*, and the bent frame *m m*, prevent the board from rising while under the operation of the cutters.



The boards are brought forward to the cutters by means of a chain passing over a drum situated where the frame is shown imperfect. From different links of the chain descend hooks, which hold the end of the board and force it forward as the drum revolves, and when the last end of the board is brought under the drum it is to be pushed forwards by the introduction of another board, and a hook from the chain applied to the farther end of that, and so on in succession, during the operation of the machine.

The favorable opinion which we formerly gave of Mr. Muir's planing machine has been completely borne out by the success of the machine, and we have every reason for believing that the patent before us will prove an important addition to his former invention.—[Reg. of Arts.]

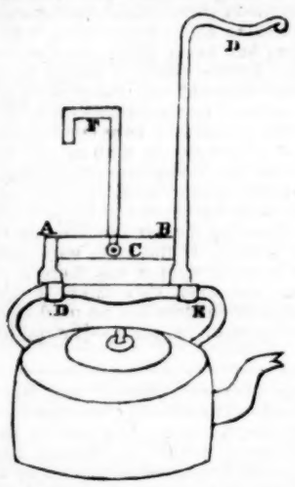
Improved Method of Using Wheel-Drags. By W. Baddeley. [From the London Mechanics' Magazine.]

Passing down Ludgate-hill the other evening, I noticed a very heavily laden west-country waggon going down the hill with one of the wheels locked; the consequenee of which was, that the friction of the wheel upon the stones caused the evolution of considerable heat, which dried up the road in the track of the wheel, and at length produced a charring of the fellies, as was shown by the escaping of small quantities of smoke, accompanied with a strong smell of burning wood. On reaching the bottom of the hill, I went up to the waggon and found that it was furnished with a proper shoe or drag, but that the driver chose to *lock* the wheel in preference to using the drag. The reason appeared to be, that the former was the *easier* method; for if the shoe had been used, it would have been necessary to *back* the waggon out of it, whereas the lock-

ing chain was disengaged in an instant, by simply striking off a ring.

Few persons are perhaps aware of the extent to which wheels are continually injured by this practice; first, by the actual wear of the iron tire; and, secondly, by the mischievous effects of the heat upon the wooden fellies. I have repeatedly observed on Ludgate and Holborn hills, and other places, both in town and country, that unfortunately this is a regular practice, partly arising from laziness, and in part from the real difficulty of backing a loaded vehicle out of the drag.

It has therefore occurred to me, that a very simple remedy may be provided for this evil, by rendering the use of the shoe *as convenient* as the locking-chain. And this may be done in several ways: thus, for instance, by using a drag-chain of such a length as to permit the wheel to roll off it, and to take it up short enough to carry the wheel, when it is to be dragged by the same simple fastening at present used for the locking chain; viz. a ring sliding on a bent pin. In this way the drag may be used, and when the vehicle reaches the bottom of the hill it may be instantly and easily disengaged, and when the wheel has rolled off may be hooked up out of the way. Or the shoe may be permanently fixed by a chain behind the wheel, and connected with the chain-drag, when required, in the way before mentioned; when done with, it may be disengaged from the drag-chain and replaced behind the wheel.



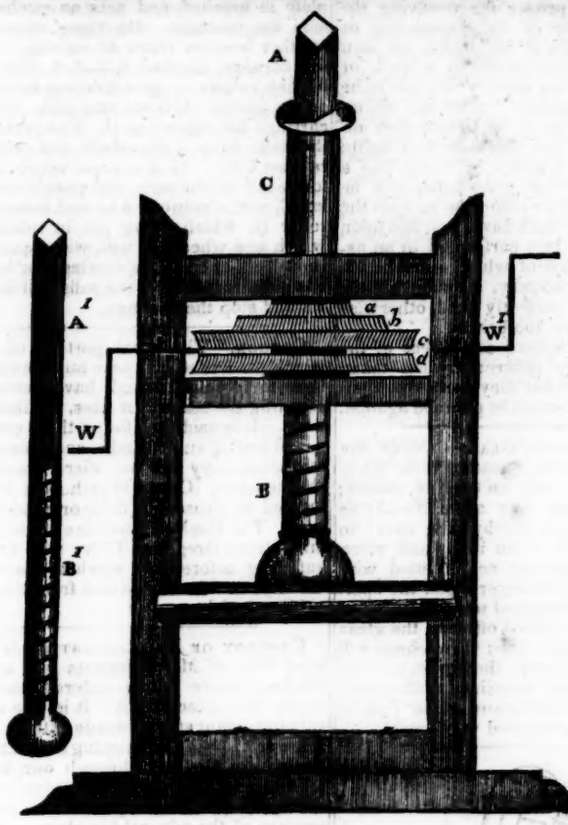
Improved Kettle-Holder. By G. J. [From the London Mechanics' Magazine.]

Sir,—A B is a slender bar of iron, or strong piece of hooping. A D, B E are hooks of equal size fixed at A and B; but E B is prolonged upwards to D, where it is turned off square to form a handle. F is a hook, admitting of being turned freely round its centre-pin C. The hook F is hung on across the pot-hook, and the kettle on the hooks D E; there is also a spring, which is welded on A B, and entering the mouth of the hook E, prevents the kettle from slipping. The operation then is to draw the handle D towards you, when the water will be steadily discharged without giving you any chance of scalding or burning your fingers. The contrivance is so simple and cheap, that I have no doubt any blacksmith would make it for two or three shillings.

It will at once appear, Mr. Editor, that this is an useful kitchen utensil, and as such, I feel assured that its description will not be denied a place in the pages of the Mechanics' Magazine.

Hunter's Screw-Press, improved. By Φ. M. [From the London Mechanics' Magazine.]

Sir,—I beg leave to submit to the consideration of your readers the following design for extending the range of an admirable invention,



which must be familiar to most of them—I mean Hunter's Screw-Press. My principle is, instead of using Hunter's triple combination of nut and screw, to use only a nut and screw with a supplementary apparatus, which shall have the effect of making the screw, as it were, run away from the gripe of the nut, while the nut is made to follow with whatever degree of velocity may be required. Thus the screw rises with a velocity bearing a similar ratio to that of the moving power, as in Hunter's, while the range of the resultant power is continued through the whole length of the screw. In the accompanying figure, A′ B′ is the screw taken out of its place; a square projection of equal length with the screw is added to it. The head of this square part is seen in the figure, at A, rising out of C, in which it slides. C is a tube with a circular bore, wide enough to admit the screw freely, but closed by a square aperture, through which the square projection works. C is of one piece with *a*, *b*, and *c*, and works resting upon *d*, which is the real nut. *a*, *b*, *c*, and *d*, are furnished with teeth, and a winch is affixed by a contrivance which will allow of its engaging either *a*, *b*, *c*, or *d*, individually, or *c* and *d* together. *a* may be supposed to have 50 teeth, *b* 100, *c* 200, and *d* 200. *a*, *b*, and *c*, are intended merely to bring the screw down to its work, or to perform light tasks; and when the winch engages any one of them, *d* is clamped. When the screw is required to do its utmost, the winch is made to engage *c* and *d* together; then *c*, by means of its hold on the square projection, keeps the screw going before the nut, while the nut is overtaking it at the rate of one tooth for each revolution. The construction given in the figure is one of several, and not the best, but the one I found least troublesome to copy. I hope some of your correspondents will favor us with an opinion of the merits of the machine as thus altered, and also with a calculation of its powers, taking for data the winch at 15 inches radius, the moving power at 30 pounds, as, also, that one revolution of the winch passes one tooth, and that one revolution of the nut *d* passes one thread of the screw, the interval between any two threads being 2 inches.

[*From the American Railroad Journal, &c.*]

Complete System of Railroads.—If a man can draw up four pounds over a pulley, and walk off at the rate of two miles an hour drawing up such a weight by a cord, then he can move a load of 1,000 lbs. on a level Railroad. And if the departures from an entire level are not great, they would not much increase the difficulty of locomotion. Who can estimate the convenience to the public of a system of Railroads intersecting the whole country, and affording to every village and farming neighborhood an easy communication to market at almost all seasons of the year: in all seasons certainly, except in blocking snows. It would accommodate especially the laboring classes, who have not capital enough to employ a horse and carriage, and who are accustomed to use their limbs—and who could readily reach a market with their articles of manufacture or produce, if they could travel on a Railroad constructed for their convenience. Among the inventions which have blessed the world, none more evidently give additional prosperity to towns, villages and farming regions, than improved means of communication. No inventions have exerted a more powerful influence in diffusing knowledge and in elevating intellectual character. A system which may bring easy means of conveyance to every man's door deserves attention. A system which gives to farms and places of business of various descriptions, 30 or 40 miles distant, the advantages heretofore enjoyed by similar places within a few miles of a large market, claims examination from the man of business, the political economist, and the friend of the human race.

Publicola.

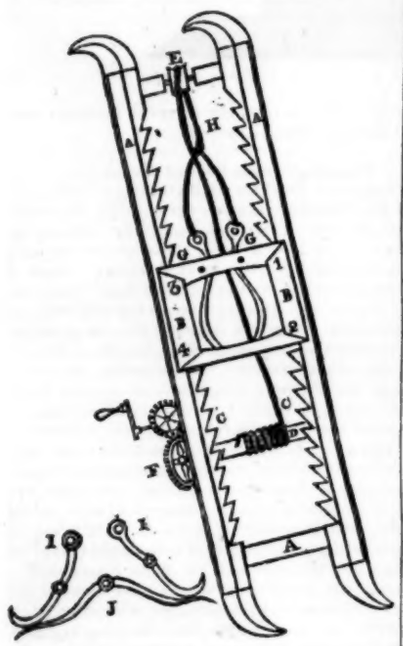
To stain Glass of various Colors.—Procure a large piece of crown window glass, and place the design (which should be previously drawn on paper) beneath the plate of glass, then brush the upper side of the glass with gum-water, and when this is perfectly dry, it

will form a surface proper for receiving the colors without danger of their spreading or running. The outlines of the design are then to be drawn with a fine pencil, in a black or blue color, and after they are dry they are to be laid on with larger pencils. After the colors are all laid on, they are to be again taken off those parts which are intended to be very light: this may be done by a goose-quill, cut like a pen without a slit. The glass must now be burned, in order to fix the colors, or to stain the glass with the colors which have been laid upon it. This operation is best performed in an assayer's furnace, the fire of which must be allowed to die away gradually, as soon as the colors are found to be perfectly fixed, otherwise the glass would become too brittle.

Observation.—The colors and effect of the picture are often very different, when taken out of the fire, from what they were when put into it: this however cannot be guarded against.

TO ETCH DESIGNS ON GLASS.—Cover the glass all over with a thin coat of bees' wax, and trace the design with an etching needle; then spread the whole over as uniformly as possible with fluor spar (Derbyshire spar) to the depth of an eighth of an inch, and when this is done, pour sulphuric acid, diluted with three times its weight of water, upon the spar. After the acid has remained upon it three or four hours it is to be poured off, and the glass washed with oil of turpentine; the etching will then appear, and the parts that were covered with the wax will have remained untouched.

Observation.—By this means glass vessels are graduated and ornamented very easily.



Improved Cellar Steps. By R. GOOCH. [From the London Mechanics' Magazine.]

SIR,—The prefixed is a rough sketch of a machine, which was invented by me a few years ago, for the purpose of raising casks out of cellars. A model of it was sent to the Mechanics' Institution of this city, and purchased by it—at a price, however, which rewarded me very inadequately for the trouble the invention had cost me. The advantage of this machine over those in common use is, that provided a rope should break or slip by accident, no injury can be sustained, either to the goods or to the person employed, which now too often occurs.

AAA is a strong wooden frame, of such size and length as may suit the work or place it is intended for. The inside of the frame is rabbited, and covered with an iron plate CC, which plate is notched, and acts as ratches on each side the machine. On these slide at liberty another wooden frame or carriage BB, and at the corners, marked 1, 2, 3, 4, there are four friction-rollers, to give freedom to its working on the plates. GG are two palls, fixed on the carriage BB, shown at H. The spring J makes the palls keep to the work and act upon the ratches CC. H is a rope, which is attached to the tails of the palls, and passes over the pulley E, and is continued to, and fastened on, the roller D, which being put in motion by the winch and wheels F, will, with equal ease and safety, either raise the carriage, or let it down. Should a rope break, the palls will immediately act and stop the carriage.

OREGON.—The great portion of the party which proceeded last year on an expedition for Oregon, we understand, have returned, after reaching the American Alps, the Rocky Mountains. It is said they found them covered with 8 or 9 feet of snow, and a snow storm prevailing when they arrived there, though it was midsummer. Capt. Wyeth and 13 men remained to prosecute their original determination. The Rocky Mountains are said to be 400 miles from Oregon. There was considerable suffering before they reached the mountains, and two men had separated from the company. —[Centinel.]

GEOLOGY OF MASSACHUSETTS.—The Geological Map of Massachusetts is is an honor to the Legislature which ordered, and the Professor who executed it It is one step, and a very important step, towards extending a knowledge of the very interesting and very practical science of Geology through our whole community; and by this knowledge to acquaint our citizens with the productions and the resources of the mineral kingdom.—[Family Lyceum.]

MODE OF THRASHING IN GERMANY.—A laborer's hire is his meat and two goschens, about two pence half-penny a day, unless he happens to be employed in thrashing, in which case he usually makes a contract for a sixteenth measure of the whole quantity of grain he thrashes out. As the entire village resounds from end to end with this operation, I shall state a few particulars respecting it which are likely to escape a more fugitive traveller, or one less curious in "re-rustica." Thrashing here is executed with a skill unknown to a less musical people. To be an expert thrasher it appears to me as requisite to have had a thrashing master, as a master for any other given art or accomplishment. They thrash with a perfect regard to time, in all the alternations of triple and common measure, making the transition from one to the other with the greatest exactness. There are some times no fewer than seven or eight flails in concert; when it is a simple quarter, and one of the performers happens to drop out, which is frequently the case, the transition is immediately, and without the least interruption, into triplets. Occasionally the effect is graced by some very delicate gradations of forte and piano, raliemando, crescendo, morcendo, accellorando—and the whole executed with as much precision as if a note book lay before each performer. When the piano is to be particularly delicate, the tips of the flails are used, which affords an opportunity of combining grace with dexterity; it is then the merest scarcely audible tap, and costs the least possible effort. Then comes the crescendo, swelling into a tremendous barn-echoing staccato—downright thrashing in fact; and what I particularly wish to enforce upon the farmer, the flail during the whole movement is never raised higher than the head, which I could not help especially taking a note of for the good of our practical agriculturists, when I recollect how much unnecessary brawn is expended on our thrashing floor to no purpose. Thus we see his genius for music never forsakes the German in any situation or occupation of life; it follows him into his commonest employments; and no doubt is their advantage, on the principle of "studio fallente laborem," in making it in all similar exertions an arithmetical operation. What is the story of Amphion building his Thebes, but an allegorical illustration of the same benefit of lightening labor by music? The German thrasher has the advantage of the Theban architect, for he turns the labor itself into a kind of music, though somewhat monotonous to be sure.—[Sir A. B. Falkner's Visit to Germany.]

TO PREPARE STARCH FROM POTATOES.—Grind a quantity of potatoes into a pulp by rubbing them on a plate of tin in which a number of holes have been made, then put them into a hair sieve, and pour cold water over them as long as a milky liquid passes through. This liquid is to be received into a basin, and when a whitish powder has settled at the bottom, the liquid is to be poured off it, and the powder repeatedly washed with spring water, until it become perfectly white. When the last liquor has been poured off, the basin is to be placed in a warm place till the starch be perfectly dry.

Observation.—Twenty pounds of good potatoes, treated in this way, generally yield about four pounds of starch.

EARLY FRUGALITY.—In early childhood you lay the foundation of poverty or riches, in the habits you give your children. Teach them to save every thing—not for their *own* use, for that would make them selfish—but for *some* use. Teach them to *share* every thing with their playmates; but never allow them to destroy anything. I once visited a family where the most exact economy was observed; yet nothing was mean or uncomfortable. It is the character of true economy to be as comfortable with a little, as others can be with much. In this family, when the father brought home a package, the older children would, of their own accord, put away the paper and twine neatly, instead of throwing them in the fire, or tearing them to pieces. If the little ones wanted a piece of twine to spin a top, there it was in readiness; and when they threw it upon the floor, the older children had no need to be told to put it again in its place.—[Frugal Housewife.]

COTTON MANUFACTURES IN THE STATE OF NEW-YORK.—The following statement was furnished to the American Advocate by Mr. Williams, Editor of the N. Y. Annual Register, and one of the Committee appointed by the late Tariff Convention to ascertain the facts here presented:

There are in the State of New-York, 112 Cotton Manufactories.

Amount of capital invested	$4,485,500
Value of goods manufactured annually	3,530,250
Amount of cotton used annually lbs.	7,961,670
Equal to 26,539 bales of 300 lbs. each.	
Number of spindles in use	157,316
Number of persons employed and sustained by said establishments	15,817

[Jour. of Com.]

Statement of the quantity of Sperm Oil landed in the U. States, during the year 1832.

From 15 ships arrived at New Bedford, from the Pacific,	bbls.	32,150
From 13 ships at Nantucket,	do. do.	28,680
" 3 ships at other Ports,	do. do.	6,950
Supposed quantity landed from ships engaged in the Right Whale Fishery		12,000
Whole quantity landed in 1832		79,780
In 1831, there were 43 ships arrived from the Pacific, which landed		100,000
Supposed quantity landed from ships engaged in the Right Whale Fishery		9,000
Landed in 1831		109,000

Shewing about 30,000 bbls. less in 1832 than in 1831.

AGRICULTURAL DINNER.—On the 15th of February, during the meeting of the State Agricultural Society, several gentlemen partook of an Agricultural Dinner at the Mansion House, prepared by Mr. Bradstreet, in his best style; the Hon. A. Spencer presiding. Three samples of excellent American wine, comprising a dozen bottles, were furnished for the occasion, by Maj. John Adlum, of Georgetown, District of Columbia, from his vintage of 1831. After the cloth was removed, the following sentiments were given:

By the President. John Aldum—He has demonstrated to *us* that our country is as capable of producing good wines as it is good bread. He merits and receives our thanks, for the book and the box which he has presented to us, to instruct us in our practice, and to exhilarate us on this occasion.

By Mr. Le Ray. The promotion of temperance, by every farmer producing his own wine.

By Judge Buel. Agriculture, the first and best pursuit of man—a trade, an art, and a science. The *triple* powers of strength, skill and science, are necessary to develope all its benefits to man.

By Judge Hickock. The Farmers—the liberal supporters of every interest but their own.

By Mr. Webster. The late Timothy Pickering; the friend and associate of Washington in our revolutionary conflict—the patriot and the statesman, whose pride it was during a long life to aid and foster the agriculture of his country.

By Mr. E. Savage. Agriculture, the father and mother of all arts—"Honor thy father and thy mother, that thy days may be long in the land."

By Mr. B. Knower. Manufactures and the Mechanic Arts—the sons and daughters of Agriculture.

By Dr. Beekman. The Farmers of the state of New-York.

By Gen. Lynch. Agriculture, Commerce, and Manufactures, mutually dependent—their success is essential to the independence and comforts of a nation.

By Mr. Walsh. Our President, Le Ray de Chaumont—his motto is our motto, "The Plough is of no party."

By Mr. Briggs. The old fashioned doctrine—Principles, not men.

By a Gentleman. Men who support principles.

By Mr. Grove. Albrecht Van Thayer, the celebrated agriculturist of Moegelin, in Germany.

By Mr. Viele. Our yeomanry, the lords of the soil—the true nobility of the country.

By Mr. A. Knickerbacker. Agriculture, Horticulture and Manufactures—corner stones of the Union, may they be protected.

By a Gentleman. The wool-growers of the United States—they merit the patronage of the government, and conduce to the real independence of a nation.

CULTIVATION OF GRASSES.—Where grazing is practised, the Green grass (*Poa viridis*), common in the grazing farms of Chester county, is esteemed by the farmers there as the very best species of herbage for pasture. It is rarely propagated from the seed. It succeeds clover and timothy spontaneously, after a top-dressing, when not broken up by culture. Blue grass is certainly a nutritive food for Stock; but when eaten down, it re-produces slowly—and we presume all its advantages are counterbalanced by its tenacity of life, and its hostile nature to other grasses and towards grain. It is too apt to intrude upon our soils, without the trouble of cultivating it.

Orchard grass (*Dactylis glomerata*) we believe wants nothing but a fair and impartial experiment among farmers, to render it universally esteemed, both for pasture and hay. In addition to its speedy reproductive power, the uniform fondness which all kinds of Stock evince for it, argues very considerably in its favor. Horses never slaver on this grass. It is rarely sown sufficiently thick—one bushel per acre is a moderate allowance. The seed should be sown, immediately after wheat or rye, in autumn.

Timothy (*Phleum pratense*) has become exceedingly popular, and is extensively cultivated. It is unquestionably very severe and exhausting upon the soil, when left to predominate—for which it has a prevailing disposition. When not cut until the ripening process has commenced, it is most exhausting. It affords neither pasture, nor protection to the soil, during the heats of summer.

Lucerne grass (*Medicago sativa*) probably yields the largest returns of all the grasses. Although its cultivation is troublesome, yet for soiling cattle it is worthy of attention. It may often be cut four times a year; and, with good cultivation and abundant manuring, from six to eight tons of hay may be cut per acre of this grass, in one season. This species requires the soil to be in the very finest tilth; and may be sown after a hoed crop in the month of May, at the rate of twenty pounds of seed per acre.

There are some more varieties deserving notice; but we have already pursued the subject farther than we designed.—[Lancaster, (Penn.) Farmer.]

A MILLION OF FACTS—*By Sir Richard Phillips.*—Among the clever books recently received from London, is one with the above title, containing a vast variety of information in a small space. It has been announced for publication by Mr. Conner, of New-York.

The sea is to the land, in round millions of square miles, as 160 to 40, or as 4 to 1.

Fraimhoifer, in his optical experiments, made a machine in which he could draw 32,900 lines in an inch breadth.

There are 7,700 veins in an inch of colored mother-of-pearl. Iris ornaments of all colors are made by lines of steel from 200 to the $\frac{1}{1000}$ part of an inch.

Bodies are transparent, says Newton, when the pores are so small as to prevent reflection.

The apprehension of the failure of a supply of coals in England is delusion. In Yorkshire alone, there are exhaustless beds, which are sold at 4s. or 5s. per ton.

The coal mines, which in Staffordshire have been burning for 200 years, consist of pyrites, subject to spontaneous combustion. Water will not extinguish them, because when drawn off, or absorbed, the pyrites burn more than before.

The odorous matter of flowers is inflammable, and arises from an essential oil. When growing in the dark their odor is diminished, but restored in the light; and it is strongest in sunny climates.

A chesnut tree grew at Tamworth, which was 52 feet round; it was planted in the year 800; and in the reign of Stephen, in 1135, was made a boundary, and called the great chesnut tree. In 1759, it bore nuts which produced young trees.

Botanists record 56,000 species of various plants; and 38,000 are to be found in the catalogues.

The height of mountains in the moon is considerable; ten are five miles or nearly; and eight are from 3 to 4 miles. Three of the hollows are from 3 to 4 miles; ten are from 2 to 3 miles, and as many are nearly two miles.

Teeth are phosphate of lime and cartilage, but the enamel is without cartilage.

The muscles of the human jaw exert a force of 534 pounds, and those of mastiffs, wolves, &c. far more. The force is produced by the swelling of the muscles in the middle, and dilating again.

The number of ribs vary, being twelve or thirteen on a side.

COLTS.—Colts should begin to be handled and gentled at about two years of age; but they ought not to be backed until they are three years old; if backed sooner, especially by heavy persons, it will be apt to distort their natural and beautiful symmetry. If they are properly managed and gently handled with the bridle, there will be no difficulty or danger in breaking them at three years—and equally as little danger or trouble in breaking them to the shafts or the gear, for the use of the farm.

After this noble animal has thus become matured and fitted for the good and useful purposes of his master, he should, while yet young, be used with moderation; hard working and immoderate and severe riding is apt to bring on many diseases to which horses are liable, especially in hot climates like this. Horses should always be kept in dry and temperate stables, placed in situations where the water will not collect around them. The simple earth floor is far preferable to any other, in such situations. Horses thus humanely treated will be as good for service at twenty years of age as they ever were at eight.—[Southern Planter.]

LONDON MILK.—It appears that the Londoners consume a great quantity of milk: no less than 15,937,500 gallons are used annually in the metropolis and its suburbs. It appears that the entire number of cows kept by the London cow-keepers amounts to 8,500, viz:—7,200 in Middlesex, 681 in Kent, and 619 in Surrey. Each cow on the average yields nine quarts per diem, or 3,285 quarts per annum; but deducting 285 quarts for suckling, casualties, &c., gives us a total of 6,375,000 gallons of *pure* milk, to supply the consumption of London and its vicinities. The retail vender adulterates it with water, at least 150 per cent.—which gives the startling total of 15,937,500 gallons per annum. Each dairy-room is furnished with a pump, to which the retail dealers apply in rotation, and pump away, "*ad libitum.*" A considerable cow-keeper in Surrey has a pump of this kind, which goes by the name of the Black Cow, from its being painted that color, and is said to yield more than all the rest of his dairy-stock put together. The price at which milk is sold to the retail vender, (who agrees with the cow-keeper for the produce of a certain number of cows, and takes upon himself the labor of milking them,) varies from 1s. 8d. to 1s. 10d. for eight quarts; which, taking it at the medium of 1s 9d. gives a total of 278,906*l.* 5*s.* for the wholesale price, and produces an annual expenditure, after the friendly assistance of the *Black Cow with a wooden tail*, of 697,265*l.* 12*s.* 6*d.*—a tolerable long *milk score.* Generally speaking, the cows used for the London Milk Market are of a large size, with short horns, and are distinguished by the name of Holderness cattle, from a district so called in the East Riding of Yorkshire. The population of London, including babies of every growth, amounts, in round numbers, to 1,500,000; so that each person, on the average, consumes annually ten gallons, three quarts, and nearly two pints of milk.—[English Paper.]

HORIZONTAL WIND-MILL.—Mr. H. Rulon, of Mullica Hill, Gloucester county, New-Jersey, an ingenious and talented mechanic, has invented a Horizontal Wind-Mill, of an entire new plan. It has been pronounced by competent judges, as superior to all others: combining all their advantages, and retaining none of their imperfections. The difficulty and danger of managing wind-mills in time of hard blows and blasts, has heretofore proved an almost insuperable objection to their erection. This great defect he has entirely obviated. And from the peculiar structure and formation of the wings, the power of the wind operates a third stronger, and may be managed with the same uniformity and regularity as water mills. From the simplicity of construction and formation, it may be erected at a very trifling expense.—[Camden Nat. Rep.]

[We should be much obliged if Mr. Rulon will favor us with a drawing of his invention, accompanied by a description; and we shall have great pleasure in giving them an insertion in our pages.—ED. M. M.]

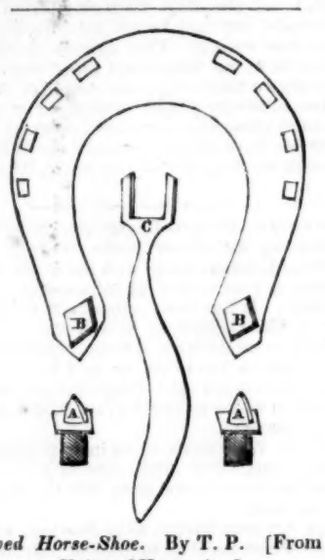
Cultivation of the Vine from Seed. By W. W. B. [From the Genesee Farmer.]

Whoever has examined and compared the wood of the European grape with that of our native species, must have observed a remarkable difference. The wood of the American is much harder and firmer, which fits it the better to endure the changes of our climate—to resist the cold in winter, and the mildew in summer. The change, therefore, which seems necessary to be effected in the European vine, in order to its adaption to our climate, is the hardening of its wood and the alteration of its tender constitution. How is this to be done! We think, if it can be done at all, it is to be effected by cultivating the vine from the seed. It is a general law of the vegetable kingdom, that the seed produced by any plant, in any climate, will be adapted to that climate. If the plant producing this seed has been brought from another climate, and is not well adapted to the climate to which it is transported, its seed will produce plants better adapted than the parent to the climate in which they were raised, and after a few generations, or successive reproductions from the seed, will become acclimated: which law seems to have its foundation in an effort of nature to preserve and continue the species. We would not intimate, however, that this law holds so universally true that all plants of any climate may thus become adapted to another and entirely different climate. There are some that are peculiar to certain climates which could never be naturalized to another. Of this class are many of the tropical productions. But to a considerable extent, we think, this law holds true. We might adduce several examples, but we will notice but one, which is familiar to all. It is well known that seed of Indian corn, carried from our northern climate to the south, will, after a few successive plantings, assume all the characteristics of the southern corn. A similar change will take place in seed brought from a southern to a northern climate; after a little time it becomes acclimated. Thus, we think the *Vitis vinifera* of Europe may be acclimated in our country, after a few successive reproductions from the seed. But we do not draw our opinion solely from analogy, or from reasonings from general laws or principles, to which there are always some exceptions; we are not without facts in the history of the vine in this country to confirm this opinion. There are some vines in the United States, which, on account of their hardy constitution and adaptation to the climate, have been taken for native American grapes, but which have proved to be seedlings from European varieties. The *Orwigsburg* has been heretofore considered a native American grape, and classed in our catalogues as such; but Mr. Prince, in his last catalogue, says it is a native seedling of an European variety. The *Herbemont's* Madeira was considered by many an American grape. It is, however, decided to be of European origin, produced probably from the seed. It is not improbable that there are others ranked as American grapes, that will be found to be descended from European varieties.

The writer is happy to find that in his views on this subject he is not alone. Since penning the above, on looking over the American Farmer, I find the same opinion advanced. J. C. Short, Esq. in an agricultural address, says: "The vine, to become acclimated, should be raised from the seed. We have made, hitherto, wretched progress in this department. We have gone on from year to year, sticking sickly cuttings in the earth, brought from Europe or Africa a century ago, and which have been *pejorating* ever since. Why not, from the best grapes we can procure, grow a vigorous seedling progeny at once, and of these again select the best! It is from seed that new and valuable varieties are invariably to be obtained."

It is gratifying that more attention is now given to the cultivation of the vine from the seed than heretofore. New and valuable varieties may thus be expected to be produced, and, what is of greater consequence, better adapted to our climate than those which are brought from Europe and multiplied by cuttings, &c. It is hoped that our cultivators generally will give the opinion here advanced the test of their experience. Let the seed produced in this country from the choicest varieties of the European grape be sown. When the plants have arrived at a bearing state, let the seeds of these again be sown, and the vines from them, it is probable, will be more hardy, and better adapted to our climate, than the original from which they were produced. The experiment is worthy the trial, and promises important results. The remarks of the writer under the second head are reserved for another paper.

Hammond's Port, Feb. 1833.



Improved Horse-Shoe. By T. P. [From the Voice of Humanity.]

SIR,—I was lately travelling in a coach, early in the morning; it was one of those mornings which are so distressing to smooth-shod horses. In the night there had been a considerable fall of sleet, with a little rain, and this fall was immediately followed by a very hard frost, so that the road was one complete sheet of ice. Coming on so suddenly, there was no time to get the horses rough-shod, and their consequent suffering was great. They were down and up, first one and then another, all the way.

In order to get up one little hill, all the passengers were asked to get out and off from the coach, and even then it was with the greatest difficulty that the coachman could force the horses up. He was obliged to "lash them into madness;" sometimes two were down together, and once all four were down at the same time, and when they had scrambled to the top, they were in a pitiable state of exhaustion, the sweat literally running from them as though warm water had been poured on their backs, although so cold a morning.

It struck me at the time that it would be easy to make horse-shoes which might be turned up, as it is termed, in a few minutes. I send to your appropriate publication a drawing of the sort of shoe which I have invented.

The two steel nuts marked B are made barely a quarter of an inch high, about one-eighth and a half, and worn in the winter when the roads are not slippery. When the frost comes, and you wish the horse turned up, or more properly speaking, rough-shod, you take out the two nuts marked B by means of the spanner marked C, and put in the two steel nuts marked A. The whole is done in a few minutes. Mr. Holmes, the veterinary surgeon of this town, has lately shod some horses in this way, and it answers well. When the groom or ostler picks his horses' feet every night, he should at the same time take out the nuts, put a little oil or grease to them, and screw them in again tightly: this is to prevent their getting fastened by rust. There should always be a little store of nuts, that as they wear down they may be replaced; and they must not be permitted to wear down lower than that state in which they can be turned out by the spanner. The prevention of the very injurious effects upon the feet of horses by their shoes being taken off and turned up (often required from frost in a day or two after they have been newly shod) is worth consideration, to say nothing of its being done in haste and the foot often pricked.

Above all this, rational humanity and kindness to those docile, useful, and noble animals, should be our main object. Let them ever be considered as gifts from the Almighty Creator, for our use and comfort, and let them ever be treated with gentleness. Indeed, I believe they are seldom ill-treated but by men of vulgar minds, unthinking or uneducated; or, if educated, their education not based on Christian principles, and, without that base, I hold all education defective, if not mischievous.

Birmingham, Feb. 9, 1832.

HERD RECORD.—*Mr. Editor:* I have found very considerable advantage in keeping what I call a Herd Record, the principal object of which is to know when my breeding animals will bring forth their young. The record is kept in the following form, the first date being the time of gendering, the second that of bringing forth:

	1829.	1830.
Brindle Cow,	June 29,—April 8,	June 15,—March 28,
Red oCw,	June 29,—April 9,	June 25,—April 4,
Black Cow,	July 7,—April 18,	July 9,—April 20,
Yellow Cow,	April 29—Feb. 13,	

By the above record it will be seen that these cows carried their young from nine to fourteen days over nine months, the usual time of calculation. The average is eleven days.—[Genesee Farmer.]

THE GLOW WORM.—The notion of the Indian loxia lighting up its nest with a glow worm has usually been considered a popular fable, but the conductors of the Library of Entertaining Knowledge state, that an informant of theirs, a gentleman long resident in India, tried various experiments on the subject, and always found when he took away the glow worm out of a nest, that it was replaced by the bird with another, which was not used for food, but was stuck on the side of the nest with clay, for a lamp.—[Knoxville Reporter.]

SWISS EVENING HYMN.

The following custom is said to prevail among the Swiss shepherds of the Alps:—Every evening, at sunset, the shepherd who happens to be highest up the mountains, and has, of course, the best opportunity of seeing when the sun sets, sounds, with a speaking trumpet, the following words—"Praise the Lord," which are repeated by all the rest in the same way.

Praise, praise the Lord, oh! all the earth!
O praise the Lord, who gave you birth;
Praise, nature all! his holy name!
Who wrought your vast and mighty frame.

Praise Him, ye hills—ye mountains tall!
Who lets you stand, or bids you fall;
Ye mighty streams! of depth untold,
Praise Him as to the sea you roll.

Praise Him, ye beasts that tread the plain!
Ye finny tribes that swim the main!
Ye wanderers through the fields of air,
O praise the Lord who holds you there.

Praise Him, ye twinkling orbs of light,
That dance upon the brow of night;
And thou, fair moon—resplendent queen!
That ridest midst that host serene.

And Him, thou blazing king of day!
Praise Him with every kindling ray,
Ye clouds, that Heaven's blue concave throng,
O, praise Him as ye sail along.

And thou, unfathomed, boundless sea!
Sound high your deep-toned minstrelsy;
Praise Him who rules the mighty deep,
And bids it roll or bids it sleep.

And you, ye thunders, dreadful—loud!
Borne swift upon the blackened cloud;
Raise high your awful voices, raise,
And speak your mighty Maker's praise.

And thou, ungrateful—sinful man!
Praise Him, nor try His ways to scan;
Whose life hangs on his single word;
Praise, praise, vain man! O praise the Lord!